# SmartNVR User's Manual

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Seyeon Technology Co., Ltd

http://www.seyeon.co.kr/

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# SmartNVR® User's Manual

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### About This Document

This document is prepared for users of SmartNVR software and FlexWATCH products supplied by Seyeon Tech Co., Ltd. It is assumed that the users are familiar with Microsoft Windows operating systems and Web browsers such as Internet Explorer. It is also assumed that the users are well aware of how to install and use the network equipment such as LAN, Hub, router, and having basic knowledge of network terminologies. If you have any questions regarding network installations, please contact your network equipment vendor or network administrator or Internet service providers.

For updated contents, detailed features and other applications from Seyeon Tech, please refer to the user's manual in CD-ROM provided with the product you purchased, or visit Seyeon Tech's Internet homepage at http://www.flexwatch.com/.

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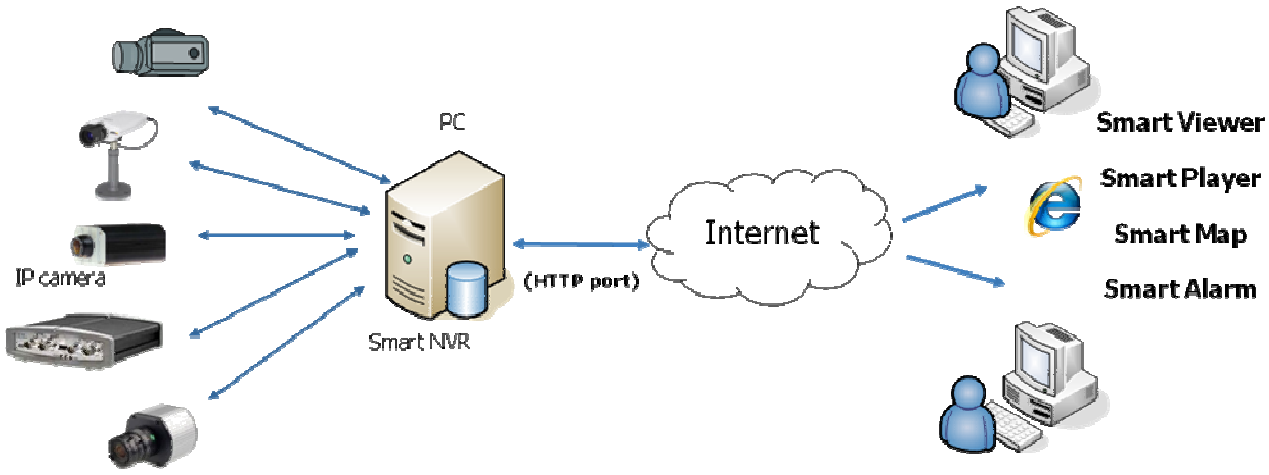
# 1. About SmartNVR

This User's manual explains how to set up SmartNVR software in your PC. SmartNVR is the integrated system software for video security applications, which runs on Microsoft's Windows-based computers. SmartNVR is in fact a part of global surveillance system, and it performs recording and configuring of the system. Some of major features of SmartNVR are listed below.

- Provides main features of Live view, Playback, Record, Backup
- Event, motion, scheduled recording & conditional playback
- Motion-JPEG, MPEG-4, H.264 stream supported
- Supports various vendors' IP devices for recording and retransmission of video, voice, and data
- Supports Megapixel cameras (up to 3M pixels)
- Users can connect to SmartNVR on web browsers to access live video, voice, and data, and search for video to play back
- Up to 64 channels supported for cameras

*Note: A product-key is required for proper installation of SmartNVR program. You can still install SmartNVR in 16-working day trial mode if a product-key is not entered during installation.*



# 2. Requirements for Installation

## 2.1. SmartNVR Versions

SmartNVR is supplied to customers in different versions for each appropriate application. Users will need to choose the right versions for their needs.

| Version Types | Register Channels | Time Restriction | Recording Channels | Retransmission Streams | Support Other vendors | Max Recoding Capacity |
|---|---|---|---|---|---|---|
| Evaluation | 16 | 30 days | 16 | 64 | Yes | 160 TB |
| Full Version | 16 | N/A | 16 | 64 | Yes | 160 TB |
| | 32 | N/A | 32 | 128 | Yes | 160 TB |
| | 64 | N/A | 32 | 256 | Yes | 160 TB |

## 2.2. System Requirement for PC

For best quality and performance, your computer needs to meet the minimum requirement as below.

- OS: Microsoft Windows XP Pro, Windows 7 Pro or higher
- Video Card: 256MB Ram, 1024x768 Resolution or higher

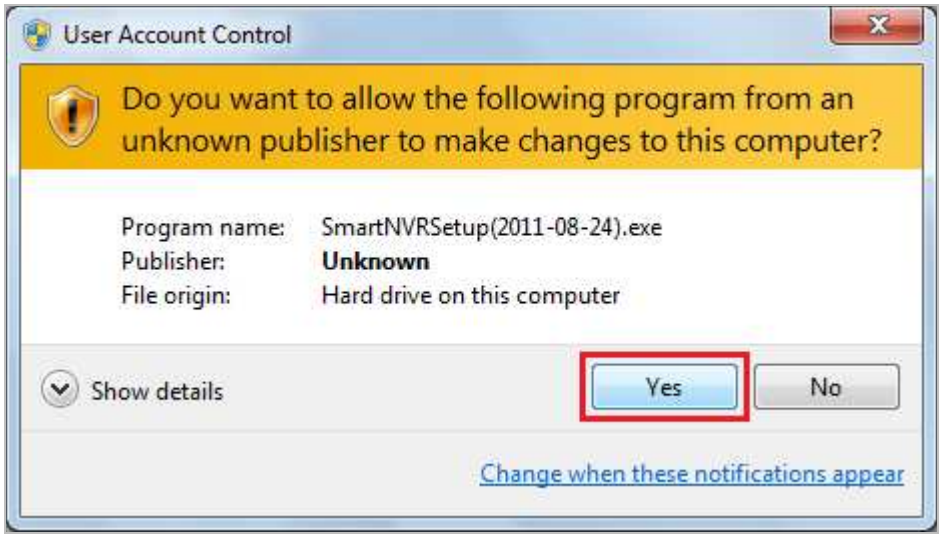
| Video Compression | # of Register Channels | Video Resolution | Recommended CPU | System Memory |
|---|---|---|---|---|
| H.264 | 16 Channels | D1 | Intel Core2Duo T5200 | 1.0GB |
| | | 720P | Intel Core2Duo E7550 | 1.5GB |
| | | 1080P | Intel Core i-5-2500S | 2.0GB |
| | 32 channels | D1 | Intel Core2Duo E6700 | 1.0GB |
| | | 720P | Intel Core i-5 750 | 2.0GB |
| | | 1080P | Intel Core i-7 970 | 4.0GB |
| | 64 channels | D1 | Intel Core i-5 661 | 1.5GB |
| | | 720P | Intel Xeon X5660 | 4.0GB |
| | | 1080P | Intel Xeon X5680 Dual CPU | 4.0GB |
| Motion-JPEG | 16 Channels | D1 | Intel Core2Duo E6700 | 1.0GB |
| | | 720P | Intel Core i-5 460M | 1.5GB |
| | | 1080P | Intel Core i-5 -2500 | 3.0GB |
| | 32 channels | D1 | Intel Core i-5 661 | 1.5GB |
| | | 720P | Intel Core i-5 -2400S | 2.0GB |
| | | 1080P | Intel Xeon X5590 Dual CPU | 4.0GB |
| | 64 channels | D1 | Intel Core i-5 -2500 | 3.0GB |
| | | 720P | Intel Xeon X5550 Dual CPU | 4.0GB |
| | | 1080P | N/A | N/A |

*Note: Above PC requirements are based on running SmartNVR program only. If other software needs to run along with SmartNVR at the same time, you may need additional performance level for your PC. It is recommended to check actual performance and disk capacity before selecting a PC for SmartNVR.*

# 3. Installing SmartNVR

Double click SmartNVR Setup icon to start installation. The following window will be displayed on the screen. Before installing, check the version of the SmartNVR which is shown on the window. Click the Next button to continue installing.

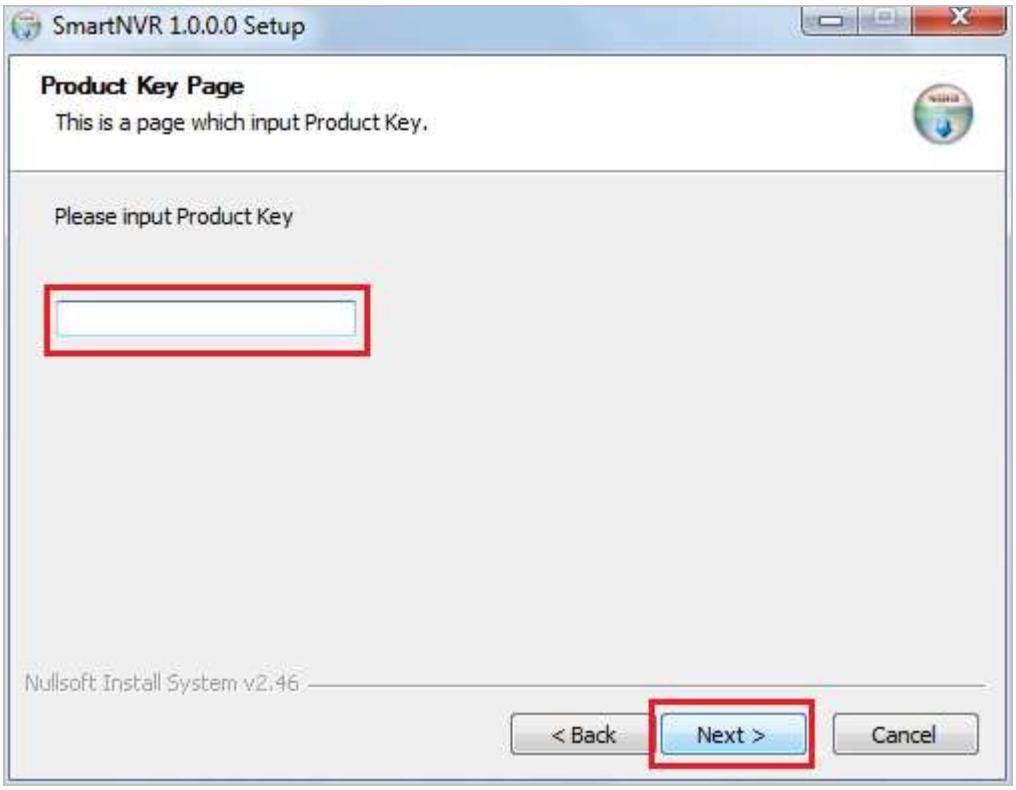
You may encounter following security warning. To go ahead installing the program, click **Yes** button.


User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?
Program name: SmartNVRSetup(2011-08-24).exe
Publisher: Unknown
File origin: Hard drive on this computer
Show details
Yes
No
Change when these notifications appear

You will see the below window, then click **Next** button.

SmartNVR 1.0.0.0 Setup
Welcome to the SmartNVR 1.0.0.0 Setup Wizard
This wizard will guide you through the installation of SmartNVR 1.0.0.0.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

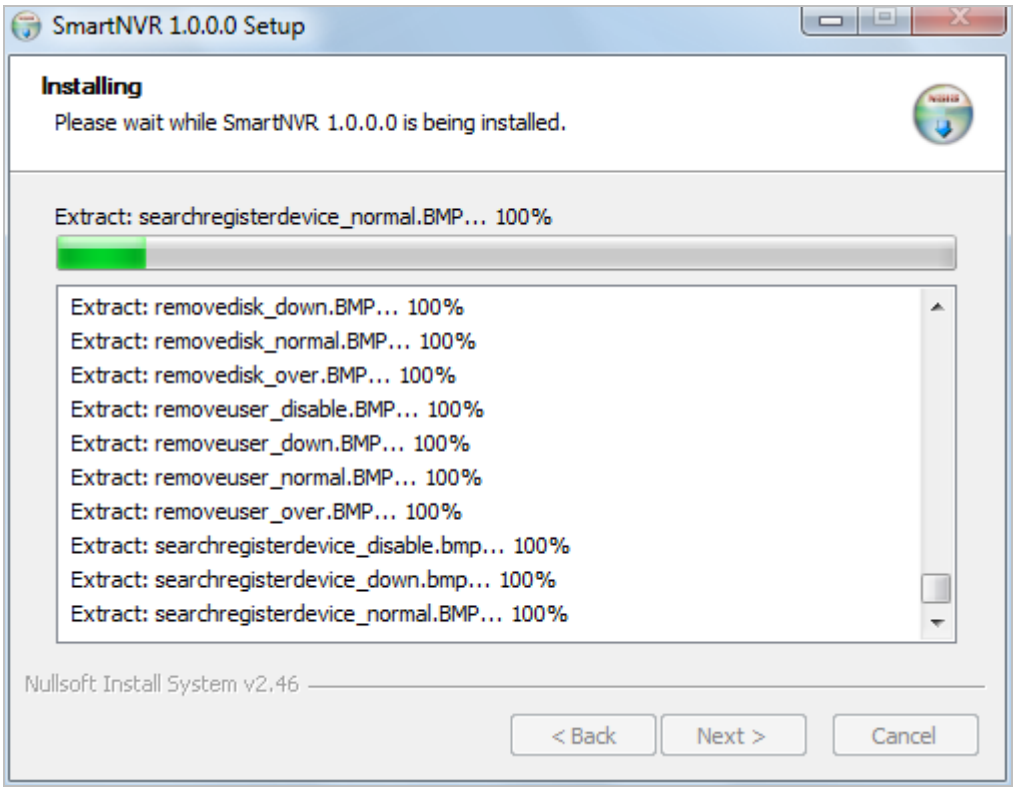
The next step is entering the **Product Key** which came with your purchase. If a **Product Key** is not entered and leave the box blank, a 30 working-day trial version will be installed.



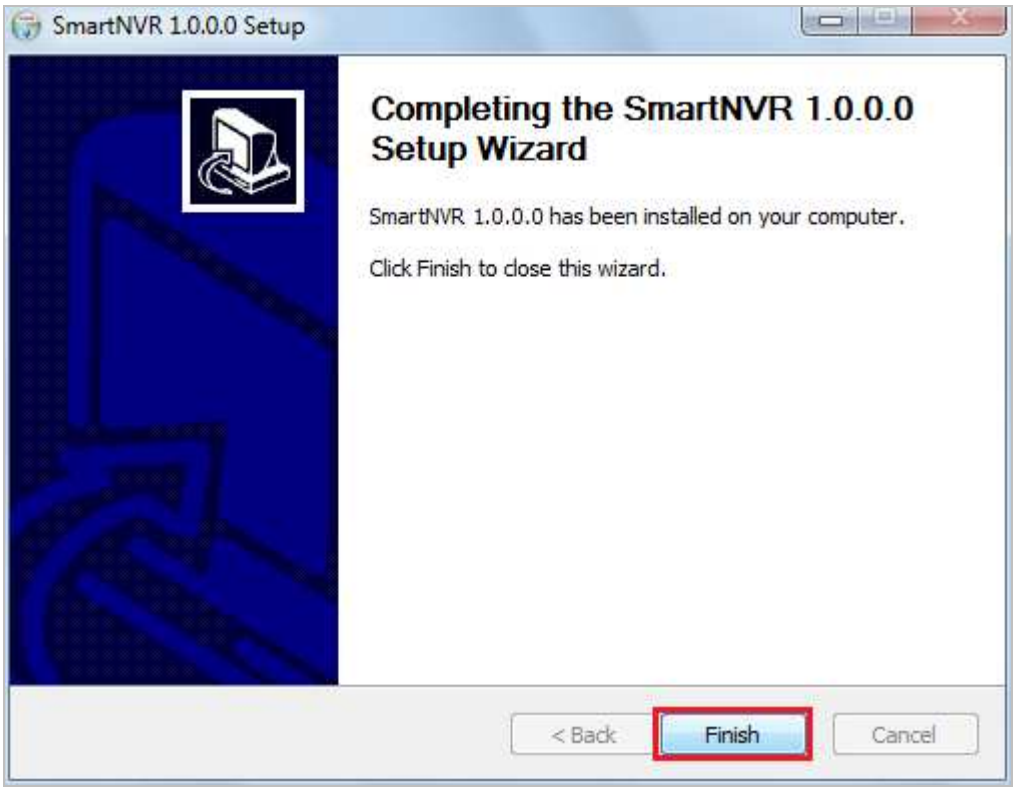

If you do not enter any proper **Product Key**, then the installed program will be 30-day trial version.

If a proper **Product Key** is entered, the appropriate version of SmartNVR will be installed. The default installation location is **C:\ProgramFilesFlexWATCH\SmartNVR**.

While the necessary files are being copied to the installation folder, you will see the following window.

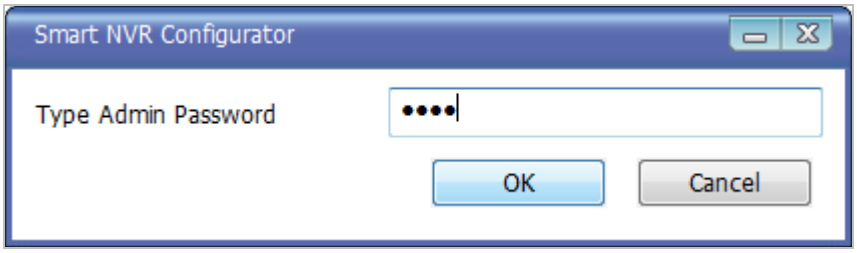



When install files are all copied, you will see the window shown below.




Click the **Finish** button to exit from the installation process.

Because SmartNVR program is installed for the first time, it needs to be configured before use. So it automatically executes the configuration program, which is called **SmartNVR Configurator**.




Enter a proper Admin Password. The default password is **root**. Now you see **SmartNVR Configurator** window on the screen.

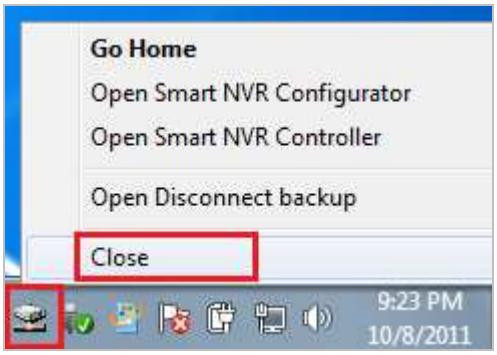
To see on how to use SmartNVR Configurator program, go to **6 Starting SmartNVR Configurator** section.

# 4. Uninstalling SmartNVR

## 4.1. Closing Active SmartNVR

If you need to uninstall SmartNVR, first you need to make sure SmartNVR program is not running on your computer by checking the system icon. As you see on the following picture, you can easily find out if SmartNVR service running.

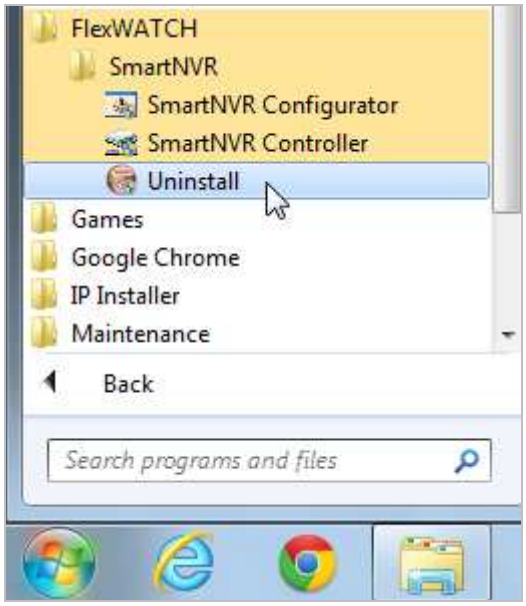
If SmartNVR is not running, you can go ahead to next section of uninstalling the program. If SmartNVR is active, place the mouse pointer on the SmartNVR icon, and click the right mouse button. You'll see the pop-up menu. Select **Close**.



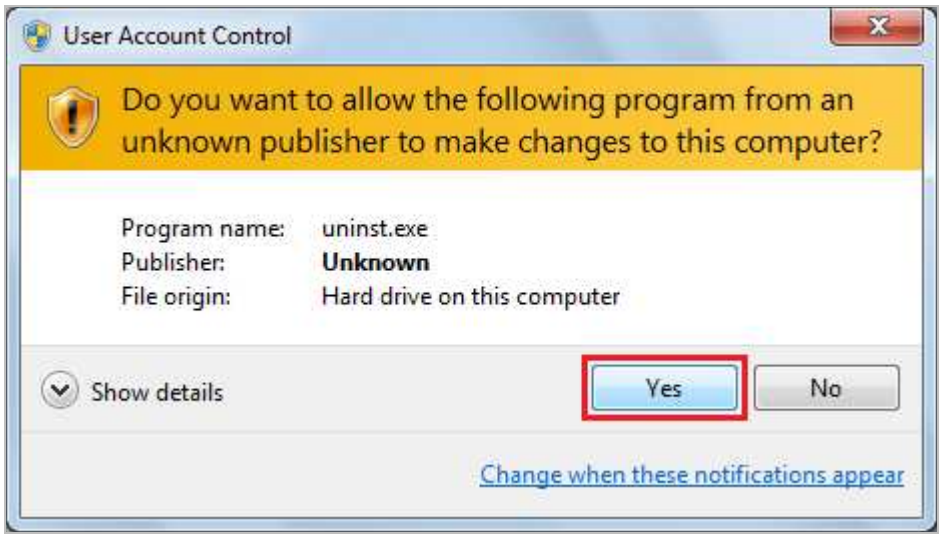

Then the SmartNVR icon disappears, and you know that SmartNVR is no longer running on your computer. Now you're ready to start uninstalling.

## 4.2. Executing Uninstaller

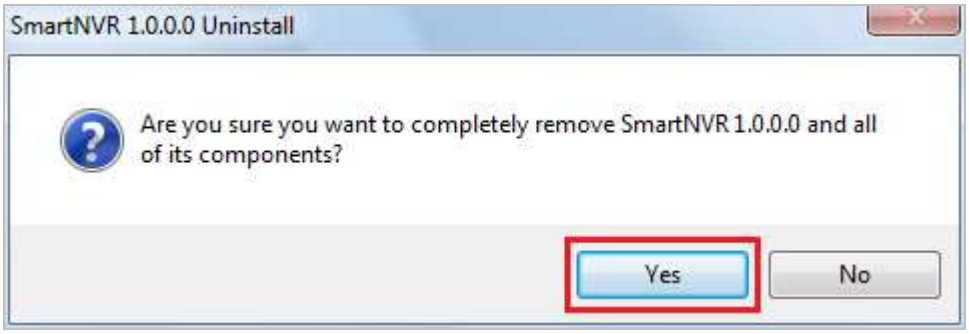
To start uninstalling, click **Start > All Programs > FlexWATCH > SmartNVR > Uninstall**.



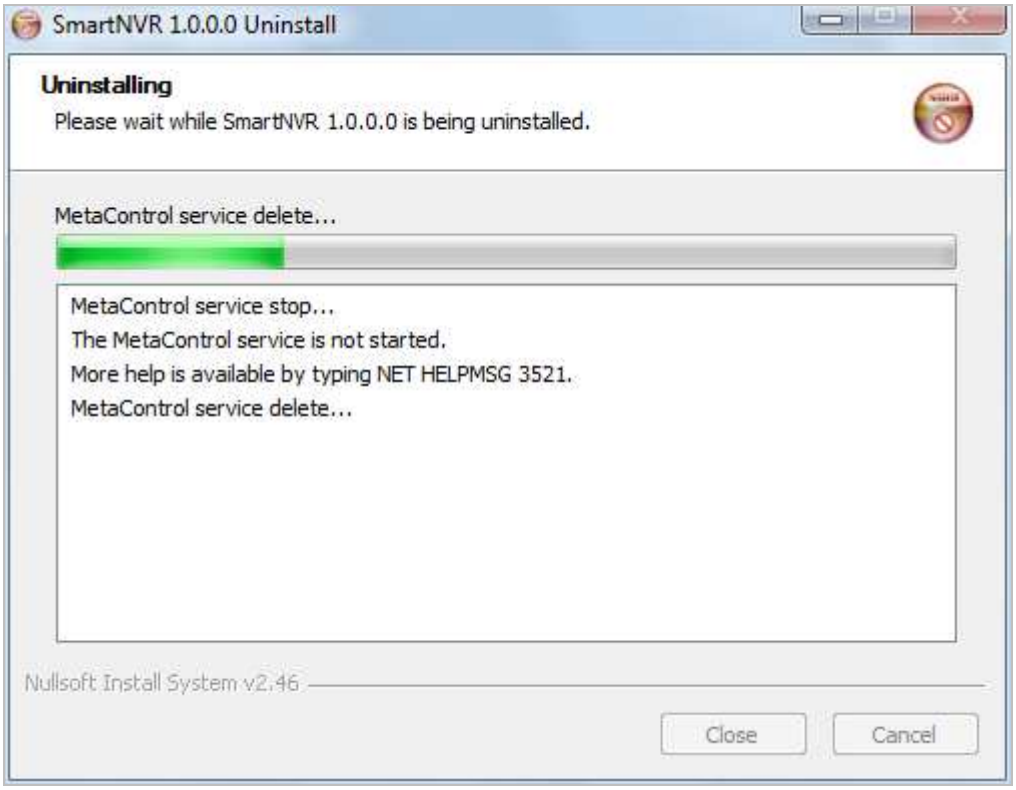

When the following window appears, click the **YES** button.


User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?
Program name: uninst.exe
Publisher: Unknown
File origin: Hard drive on this computer
Show details
Yes
No
Change when these notifications appear

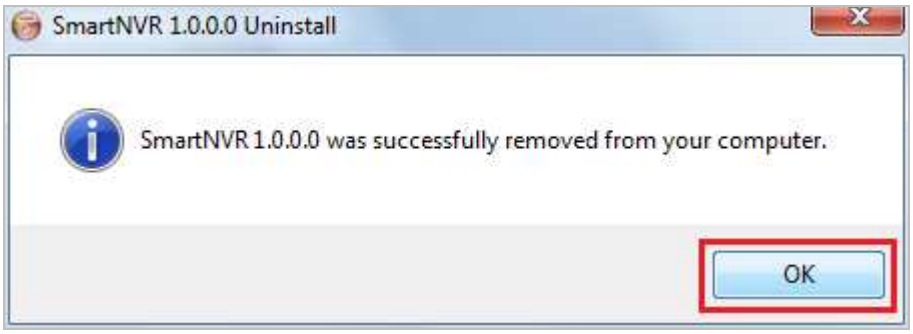
Click **Yes** again on the next window.




The progress of uninstalling is displayed.




After all the install files are deleted, the following window will be displayed. Click **OK** button on the following window to complete the uninstalling.

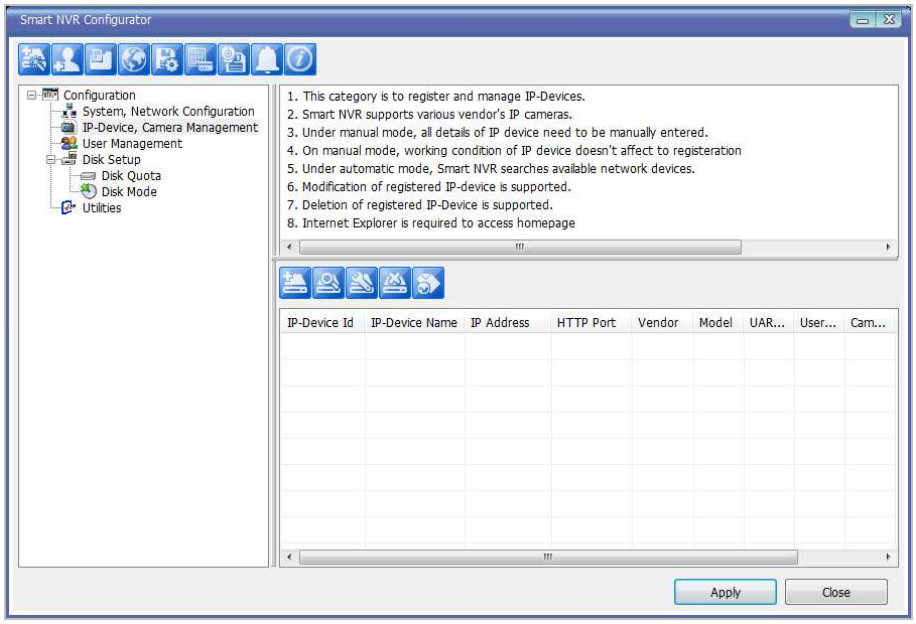

SmartNVR 1.0.0.0 Uninstall
SmartNVR 1.0.0.0 was successfully removed from your computer.
OK

# 5. Components of SmartNVR Program

SmartNVR is consists of three programs, which are SmartNVR Service, SmartNVR Configurator, and SmartNVR Controller. When you install SmartNVR software package from a CD included in the product, all these three programs will be installed together.

## 5.1. SmartNVR Configurator

SmartNVR Configurator is used to set up various parameters and conditions of SmartNVR Service. Users can register, modify, and delete IP devices and users with this program. It also provides configuring tools for recording, alarm, event, and other functionalities. When you run SmartNVR Configurator program, the following window will be displayed on the screen.




## 5.2. SmartNVR Service

SmartNVR program is a Windows service and runs in a background mode, which means that it is not shown on the Windows desktop. SmartNVR receives video, audio, alarm, even data from IP devices over the network, and then it can record the data on the hard drive or retransmit to users. Starting, terminating and restarting of SmartNVR program can be done by using SmartNVR Configurator or SmartNVR Controller.

## 5.3. SmartNVR Controller

SmartNVR Controller program is used to start or stop the SmartNVR service. The detailed usage is shown in the other section of this manual.

## 5.4. SmartNVR System Tray Menu

After you finish installing SmartNVR, you will find the SmartNVR icon on the system tray, which is located right, bottom part of the Windows desktop.

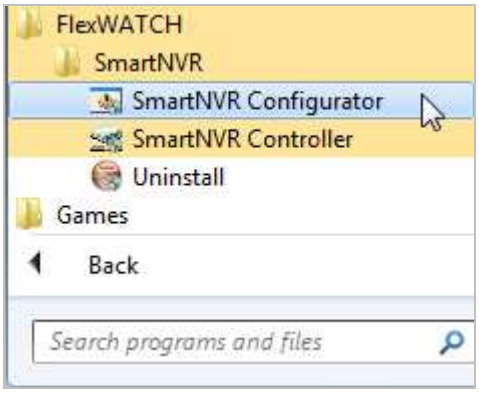
Move the mouse pointer on the icon, and click right button. The following pop-up menu will be shown. You can open SmartNVR Configurator or SmartNVR Controller program from this menu, or you can go to the webpage of the SmartNVR program for live view or playback.

| Items | Descriptions |
|---|---|
| Go Home | Go to SmartNVR homepage. |
| Open SmartNVR Configurator | Go to SmartNVR Configurator. |
| Open SmartNVR Controller | Go to SmartNVR Controller. |
| Exit | Exit SmartNVR program. |

# 6. Starting SmartNVR Configurator

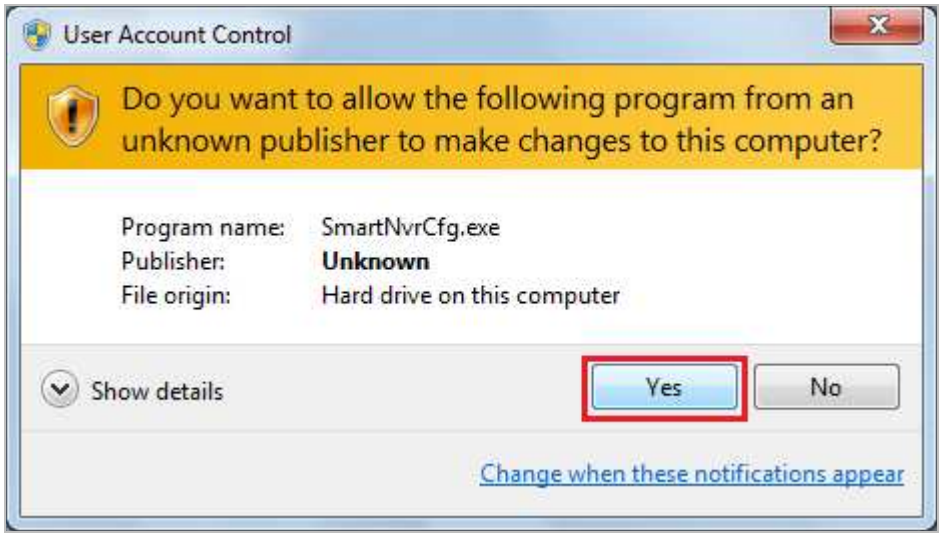
SmartNVR Configurator starts automatically right after installation is completed.

If you want to run it later, click the SmartNVR icon on the Windows desktop, or run **Start > Programs > FlexWATCH > SmartNVR > SmartNVR Config**.



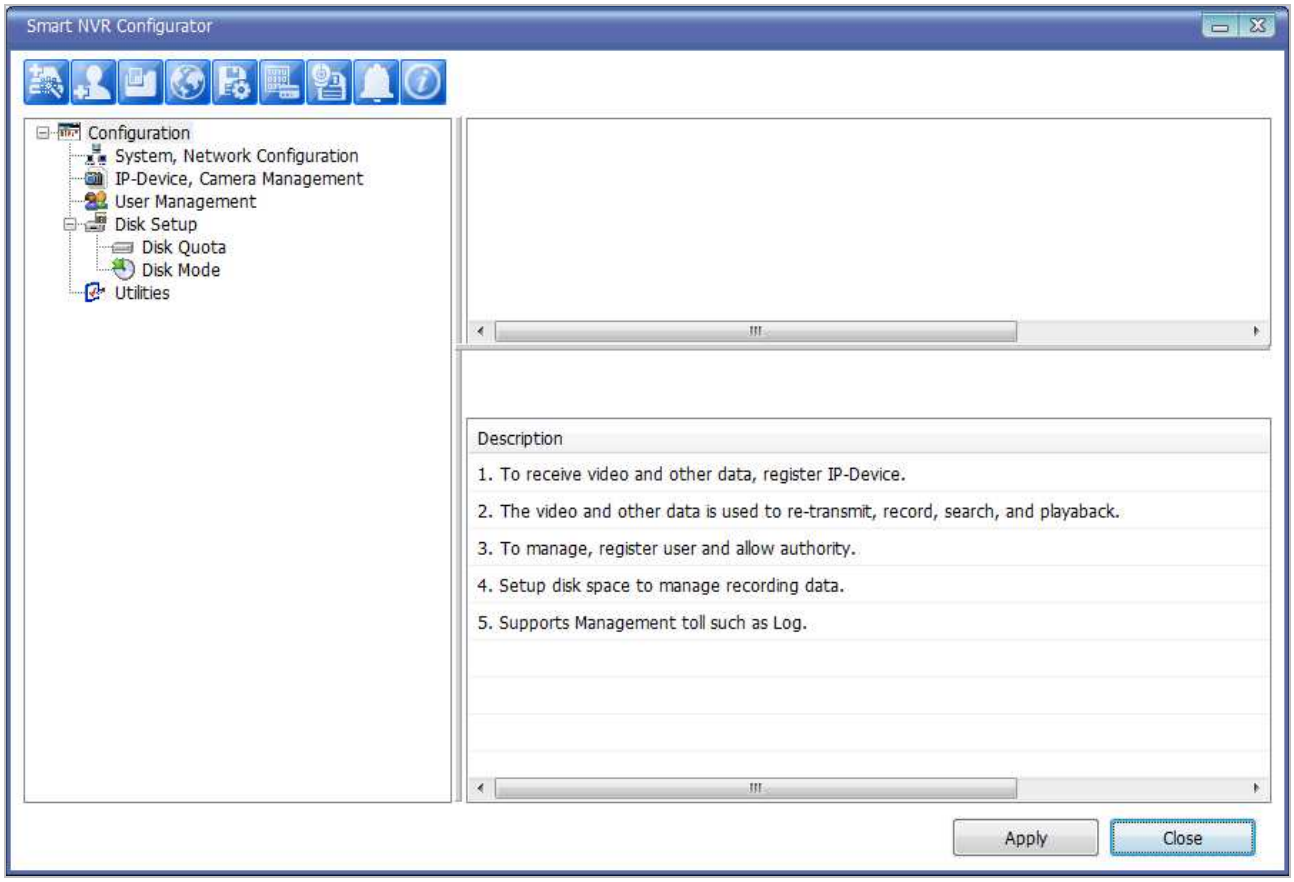

If SmartNVR program is already running in background, you may also select the SmartNVR icon on the system tray by clicking right button of the mouse.

You may encounter the security window as below. Click **Yes** button to continue.


User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?
Program name: SmartNvrCfg.exe
Publisher: Unknown
File origin: Hard drive on this computer
Show details
Yes
No
Change when these notifications appear

Once SmartNVR program starts, a log-in window will be displayed as below. Type in the proper admin password and click the **OK** button. The default admin password is **root**.

Now SmartNVR Configurator window will be displayed.


Smart NVR Configurator
Configuration
System, Network Configuration
IP-Device, Camera Management
User Management
Disk Setup
Disk Quota
Disk Mode
Utilities
Description
1. To receive video and other data, register IP-Device.
2. The video and other data is used to re-transmit, record, search, and playaback.
3. To manage, register user and allow authority.
4. Setup disk space to manage recording data.
5. Supports Management toll such as Log.
Apply
Close

# 7. Quick Start Guide

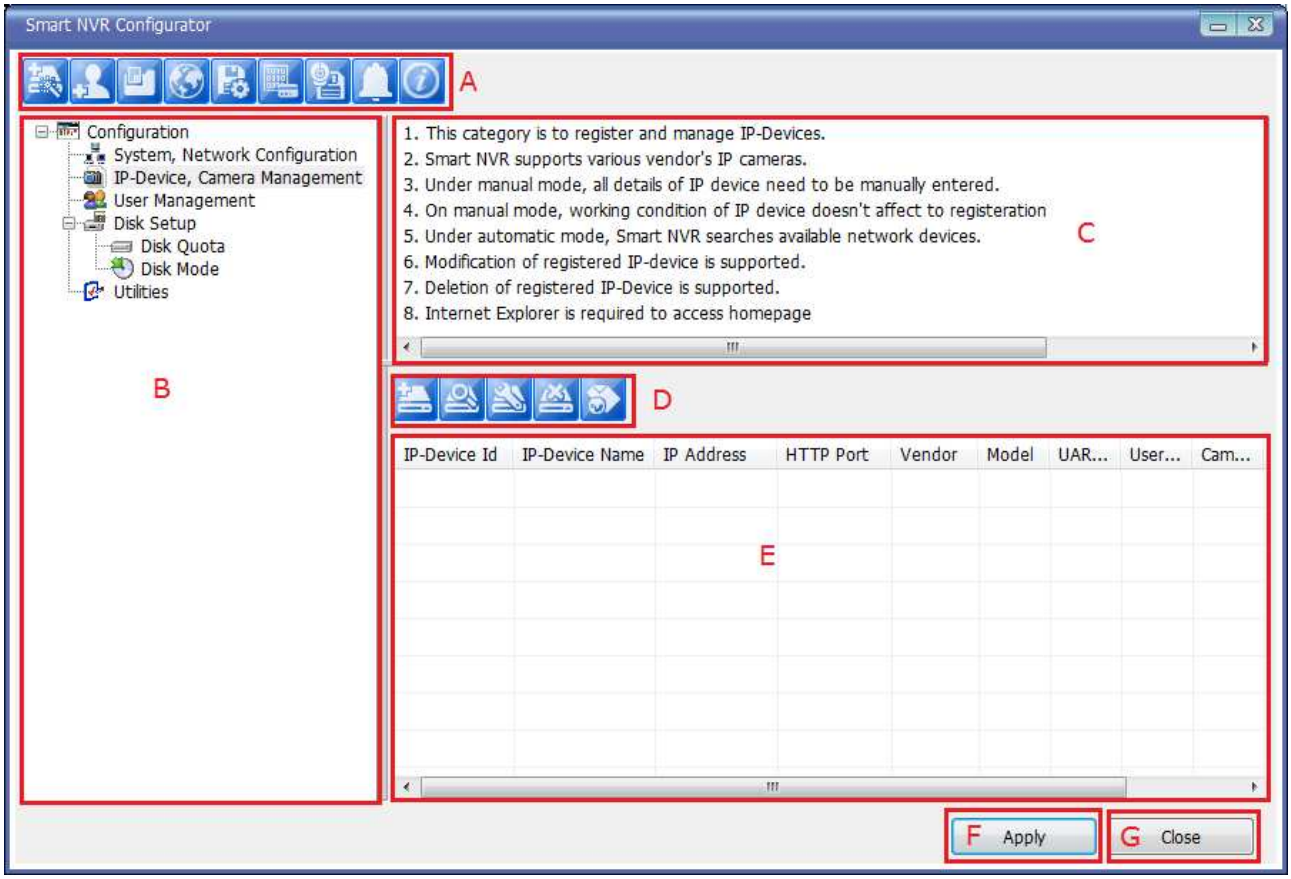
SmartNVR is full-functioning Network Video Recorder software that runs on your PC. In order to record or view the live video from network cameras or whatever, it must be connected to one or more those IP devices through the network.

When started for the first time after SmartNVR is installed, there is no IP device connected to SmartNVR because it does not know where and what the IP devices are. You should make sure that there is at least one IP device to connect.

The step to give SmartNVR the information of the IP devices is called **registering**. That means, you have to register IP devices to SmartNVR first. Then SmartNVR knows what IP devices they are, how to connect to them, and how to use them. That way, you will be able to control SmartNVR for recording, live viewing, or anything else.

## 7.1. SmartNVR Configurator User Interface

The user interface of SmartNVR Configurator is designed with emphasis on easy-to-use and simplicity. You can configure and manage your IP devices with just a few mouse clicks. The following picture shows the main window of SmartNVR Configurator program.

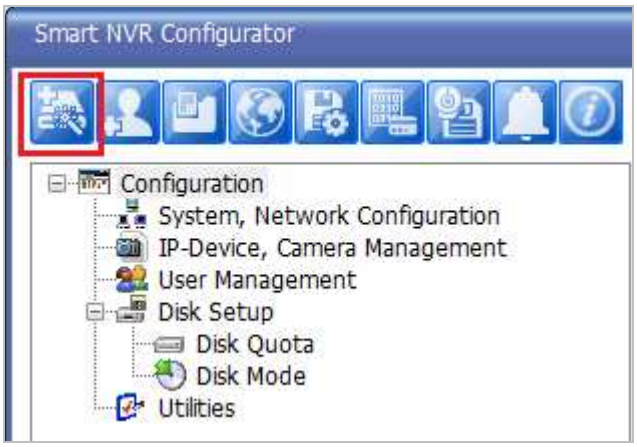



| | Items | Descriptions |
|---|---|---|
| A | Main Toolbar | Frequently-used menu items are shown on this toolbar. |
| B | Configuration Tree Menu | Configurable categories are shown as a tree menu style. |
| C | Configuration Menu Description | Descriptions and usages of the selected category are displayed. |

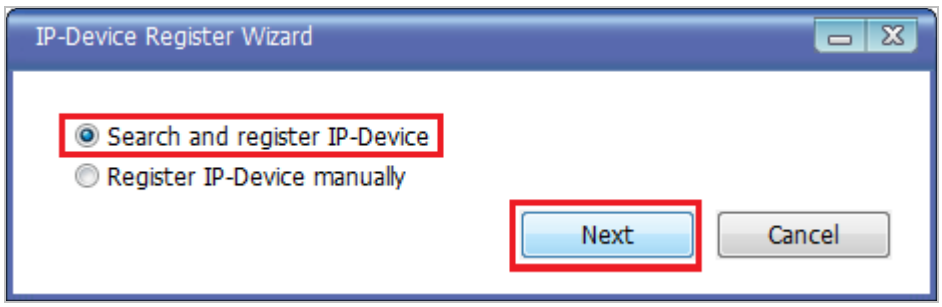
| | | |
|---|---|---|
| D | Sub-Menu Toolbar | Menu items for the selected category are shown.<br>(Note: This toolbar is displayed only when any top menu item is selected from the tree menu.) |
| E | Device List | IP devices, cameras, user disks for the selected category are shown. |
| F | Apply Button | Click this button to apply the changed values. |
| G | Close Button | Click this button to exit SmartNVR Configurator program. |

## 7.2. Searching for IP Devices

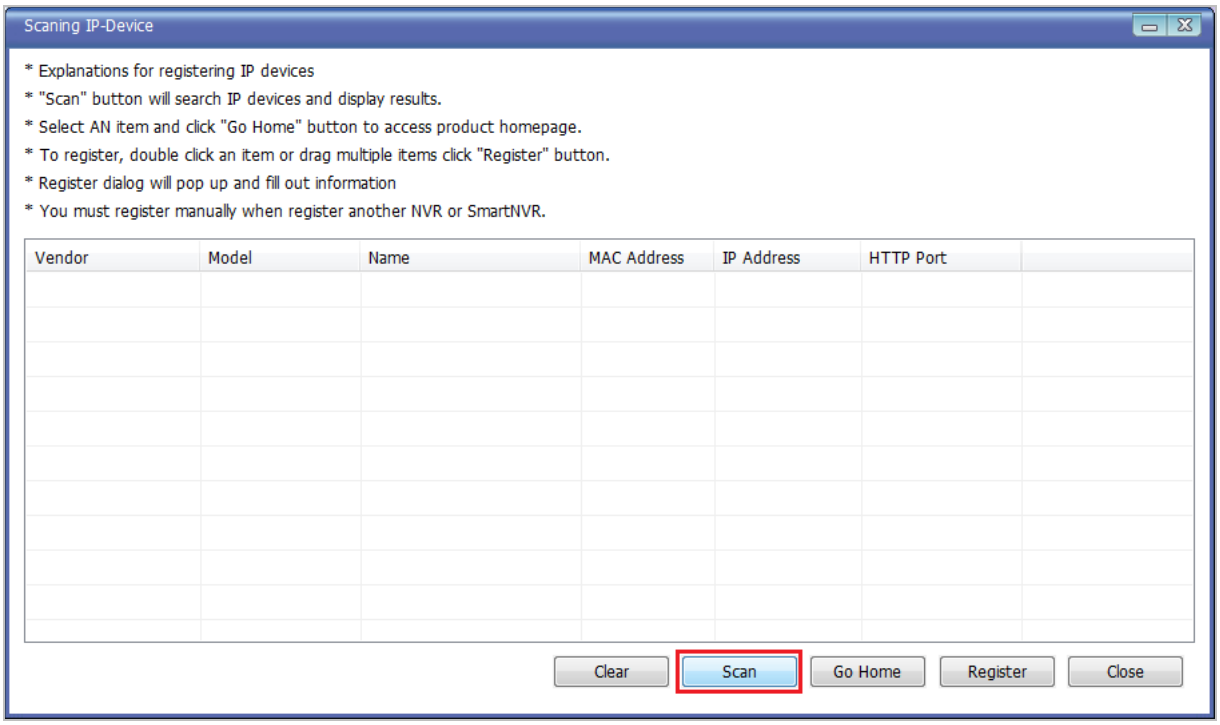
First, you need to let SmartNVR find out the IP devices on the network. Click the first button on the Main Toolbar.



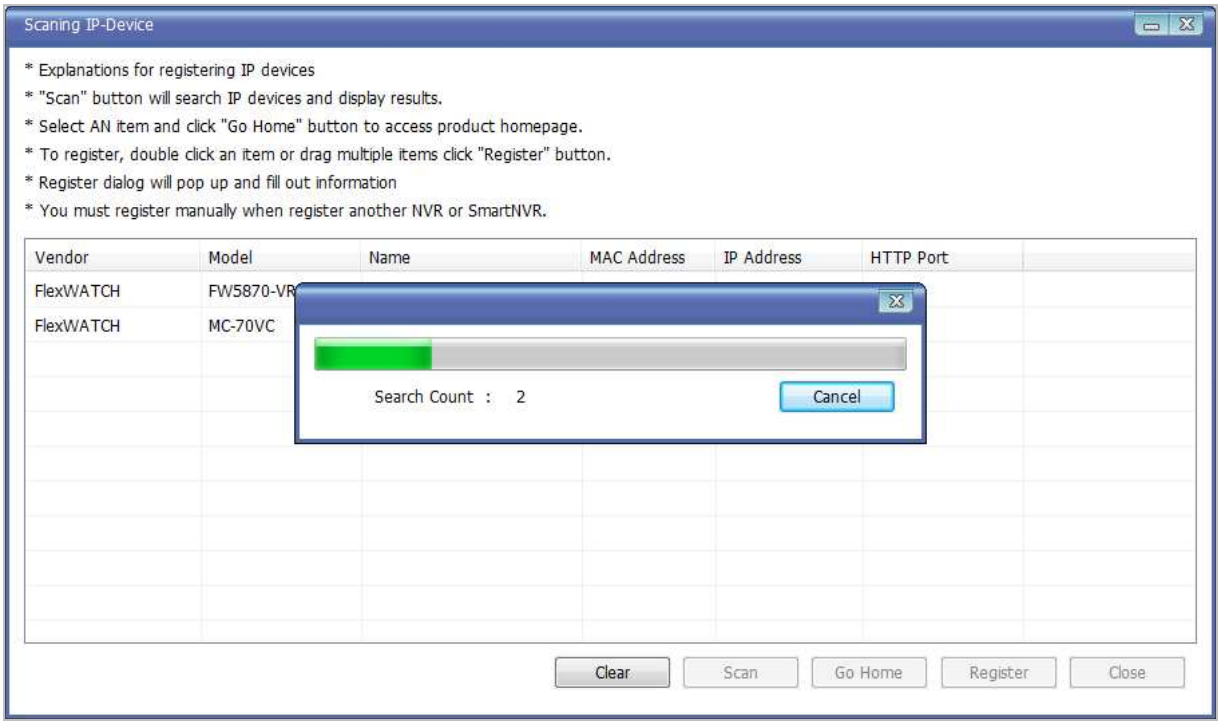

You are now given a choice to register the IP devices automatic detection by searching or do it manually. To make it easy, choose **Search and register IP-Device** in this stage, and click **Next** button.




On the following window, click **Scan** button.

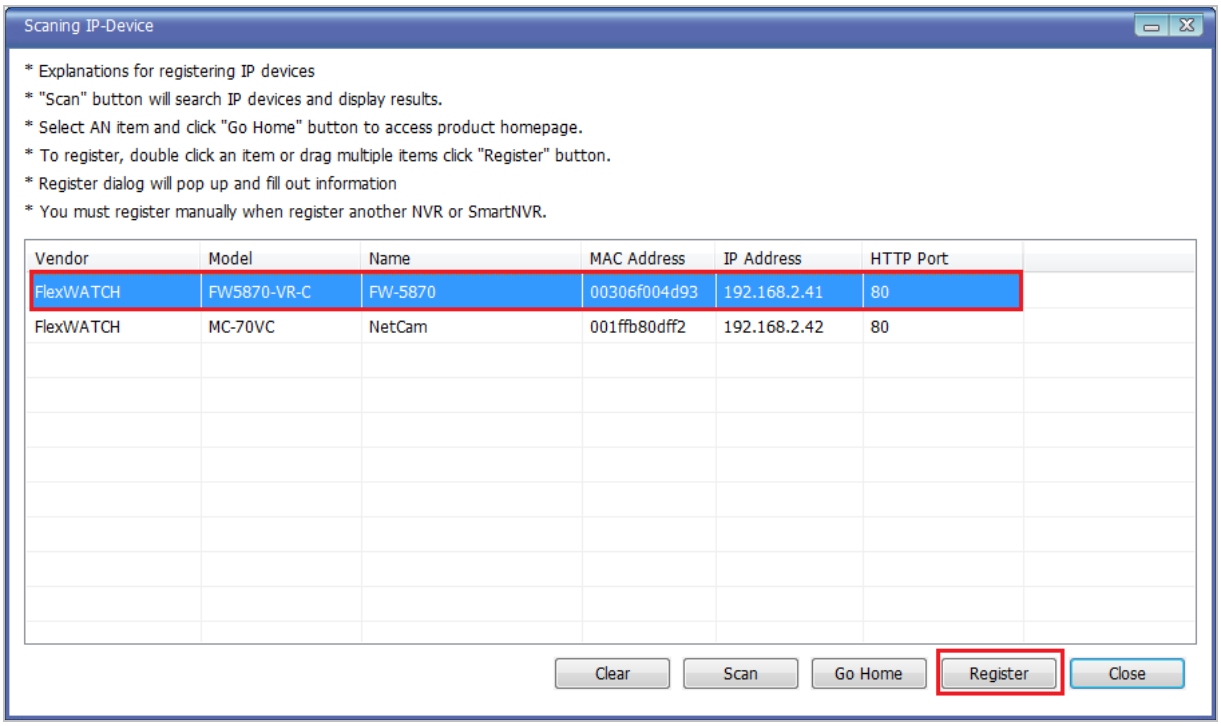

Scaning IP-Device
* Explanations for registering IP devices
* "Scan" button will search IP devices and display results.
* Select AN item and click "Go Home" button to access product homepage.
* To register, double click an item or drag multiple items click "Register" button.
* Register dialog will pop up and fill out information
* You must register manually when register another NVR or SmartNVR.
Vendor
Model
Name
MAC Address
IP Address
HTTP Port
Clear
Scan
Go Home
Register
Close

The searching for IP devices is started. As the detected IP devices are being listed. Wait until searching is finished. If you click **Cancel** button in the middle of searching, the SmartNVR will retain only the IP devices found until that moment.

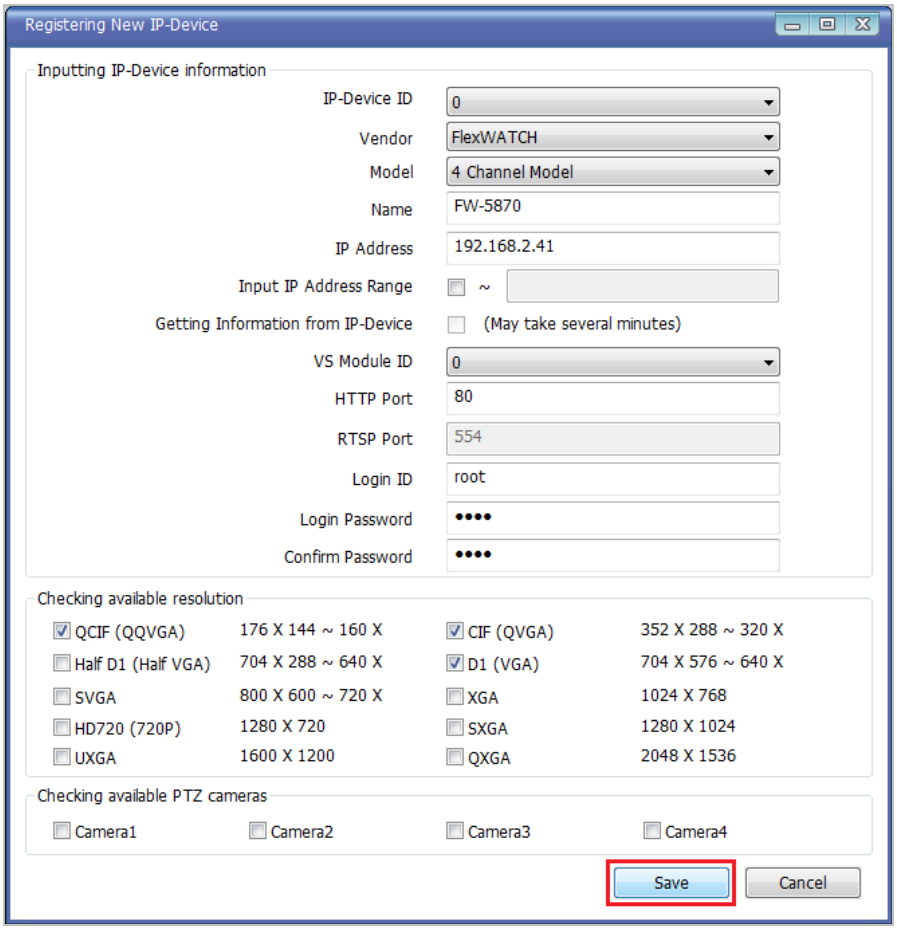



## 7.3. Registering IP Devices

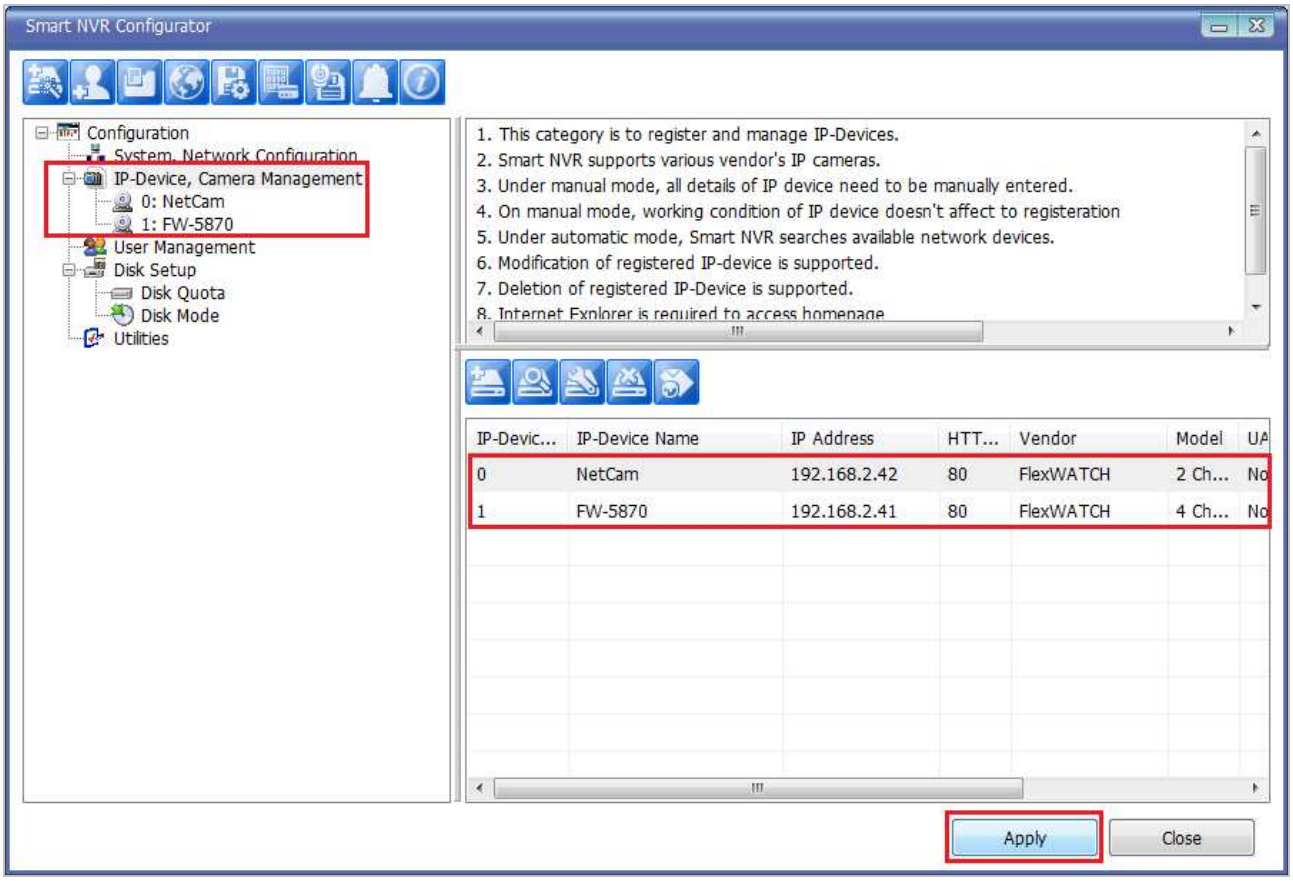
After scanning is finished, you have a list of IP devices found on your network. Next step is registering them. Double click the IP device IP device you want to register. Or alternatively, you may click the right mouse button on it and then click **Register** button. In this example, the first one is chosen to register.



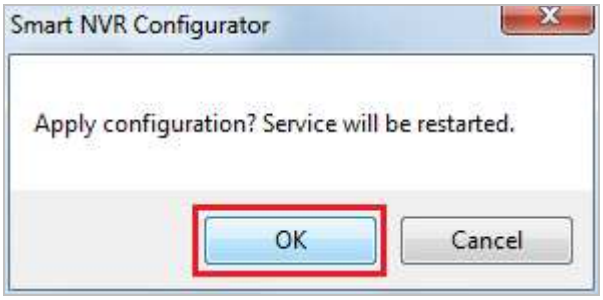

The next window shows up and it's for entering the network parameters and camera resolutions of the IP device you chosen. If it's only for testing, you may maintain the default values. You may need to enter the **Login ID** and **Password** here. Click **Save** button to finish registering it.



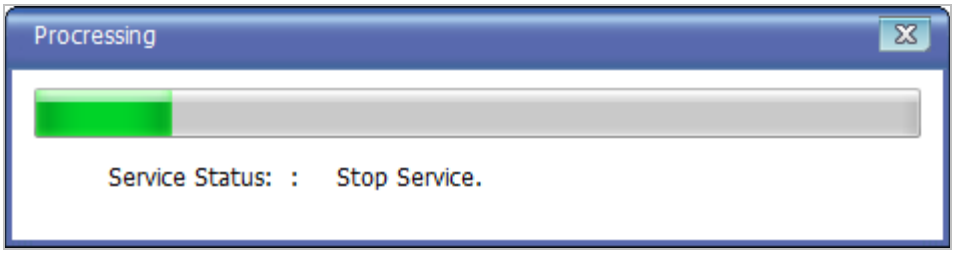
Repeat the previous step as many IP devices as you want. After registering two IP devices in this example, the main window of SmartNVR program looks like the following picture. You can find out two IP devices are shown under the **IP-Device, Camera Management** on the tree menu. These IP devices are also shown on the right lower part of the right window pane because **IP-Device, Camera Management** category is being selected on the left pane of the window. In order for these IP devices to start running in SmartNVR, you should click **Apply** button which will restart the program.


Smart NVR Configurator
Configuration
System, Network Configuration
IP-Device, Camera Management
0: NetCam
1: FW-5870
User Management
Disk Setup
Disk Quota
Disk Mode
Utilities
1. This category is to register and manage IP-Devices.
2. Smart NVR supports various vendor's IP cameras.
3. Under manual mode, all details of IP device need to be manually entered.
4. On manual mode, working condition of IP device doesn't affect to registeration
5. Under automatic mode, Smart NVR searches available network devices.
6. Modification of registered IP-device is supported.
7. Deletion of registered IP-Device is supported.
8. Internet Explorer is required to access homepage
IP-Devic... IP-Device Name IP Address HTT... Vendor Model UA
0 NetCam 192.168.2.42 80 FlexWATCH 2 Ch... No
1 FW-5870 192.168.2.41 80 FlexWATCH 4 Ch... No
Apply
Close

After clicking **Apply** button, the program will ask you to confirm it. Click **OK** button.




SmartNVR service is being stopped momentarily, and then it will start running again.



## 7.4. Viewing Live Video

Once the network and cameras are set up, it is necessary to check if SmartNVR is functioning by viewing the live videos from those devices. Click the Go NVR Home button on the main toolbar.

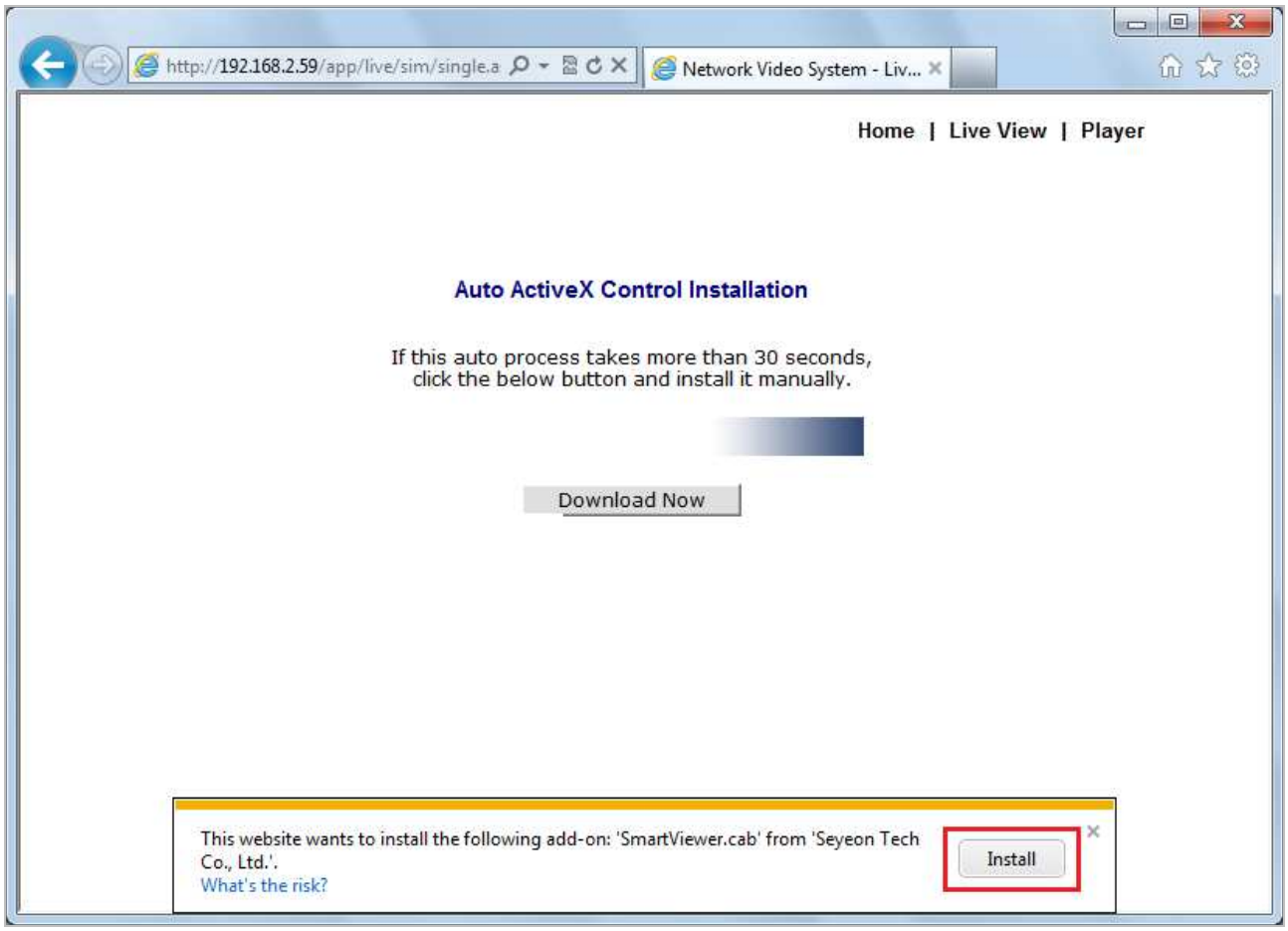
Every IP device has a built-in web server and you can reach it with a web browser. That's the homepage of the IP device. Network cameras, Video Servers, or Network Video Recorders all have a built-in webpage, and it's also called IP device's homepages.

Because SmartNVR program running on PC is also an IP device, it has its own homepage. By clicking the button on the main menu bar shown above, you're connecting that homepage. Shown below is the homepage of SmartNVR.

http://192.168.2.59/index_ie.asp
Network Video System
Home | Live View | Player
IP CCTV IN CONSTANT OPERATION
Homepage ver 4.07-1300 for Network Video System

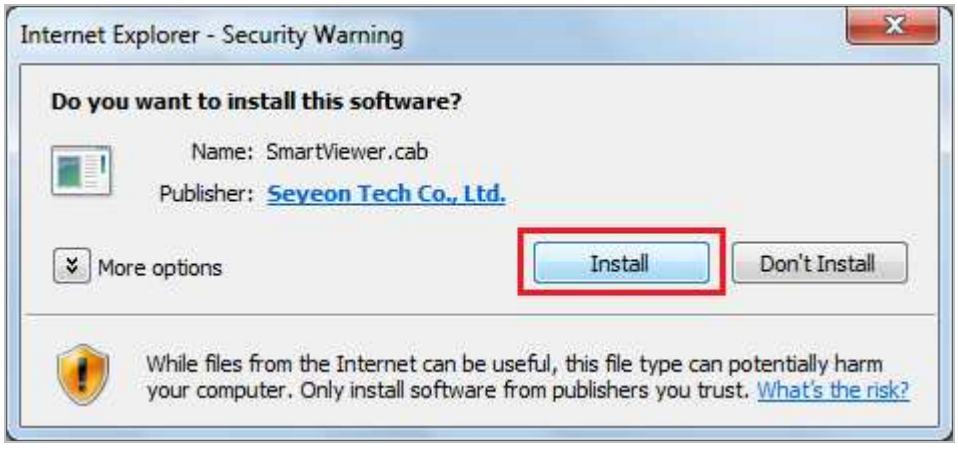
Click **Live View** on right top part of the window to see the live video from registered IP devices.

If this is the first time you use FlexWATCH Live View feature, the web browser may ask you to allow installing an ActiveX program. Click **Install** to go ahead.

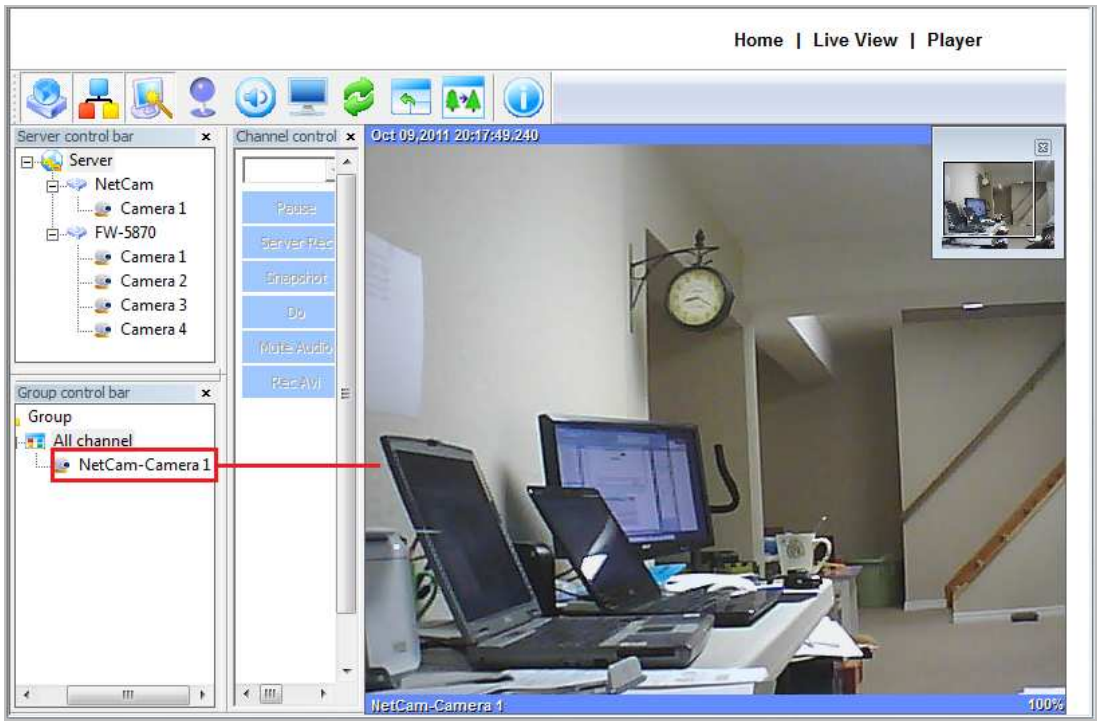

http://192.168.2.59/app/live/sim/single.a
Network Video System - Liv...
Home | Live View | Player
Auto ActiveX Control Installation
If this auto process takes more than 30 seconds,
click the below button and install it manually.
Download Now
This website wants to install the following add-on: 'SmartViewer.cab' from 'Seyeon Tech Co., Ltd.'.
What's the risk?
Install

In some cases there is no response from the web browser, you may need to install the ActiveX manually by click **Download Now** button on center of the window. The result is the same as click on **Install**.

When you see the following security warning, click **Install** button.

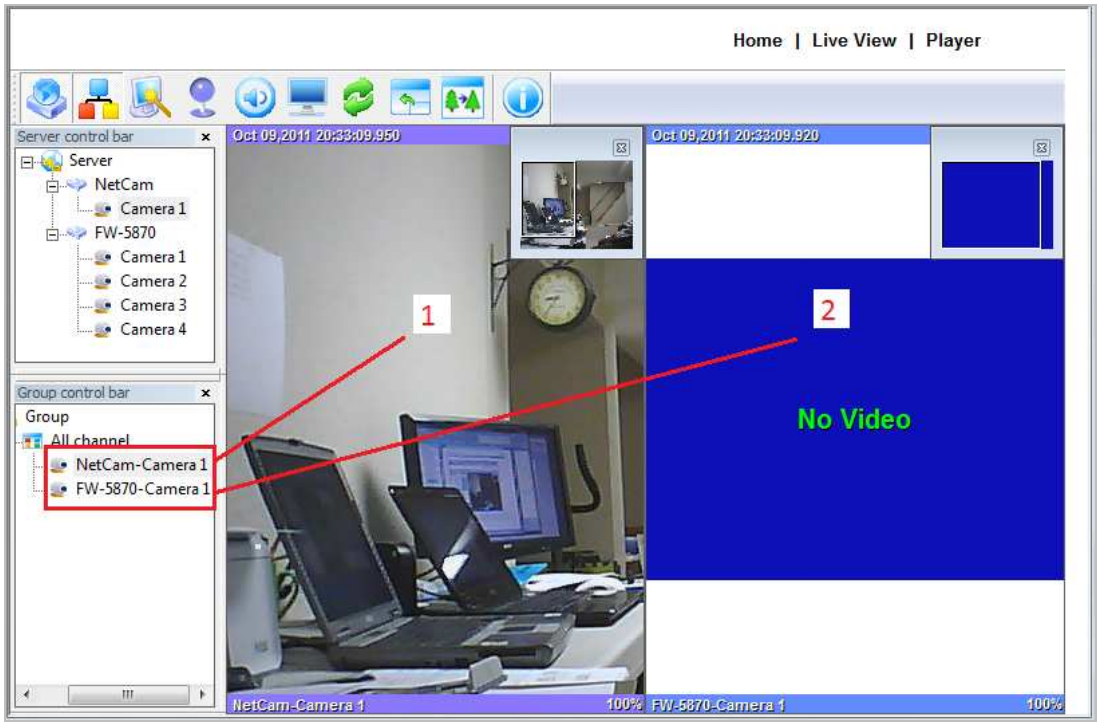

Internet Explorer - Security Warning
Do you want to install this software?
Name: SmartViewer.cab
Publisher: Seyeon Tech Co., Ltd.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

After a few moments, you are finally encountering the live video sent from one or more IP devices.




The video on the window shown above is sent from the camera in a **Group**. Only the IP devices in a group can be viewed. So if you want to add more cameras to the group, you need to click one of the cameras from the **Server Control Bar**, drag it over to **Group Control Bar**, and drop them onto the channel you want put in.

Following picture shows the two live videos are shown at the same time sharing the space. In this example, the second IP device isn't providing any video right now.

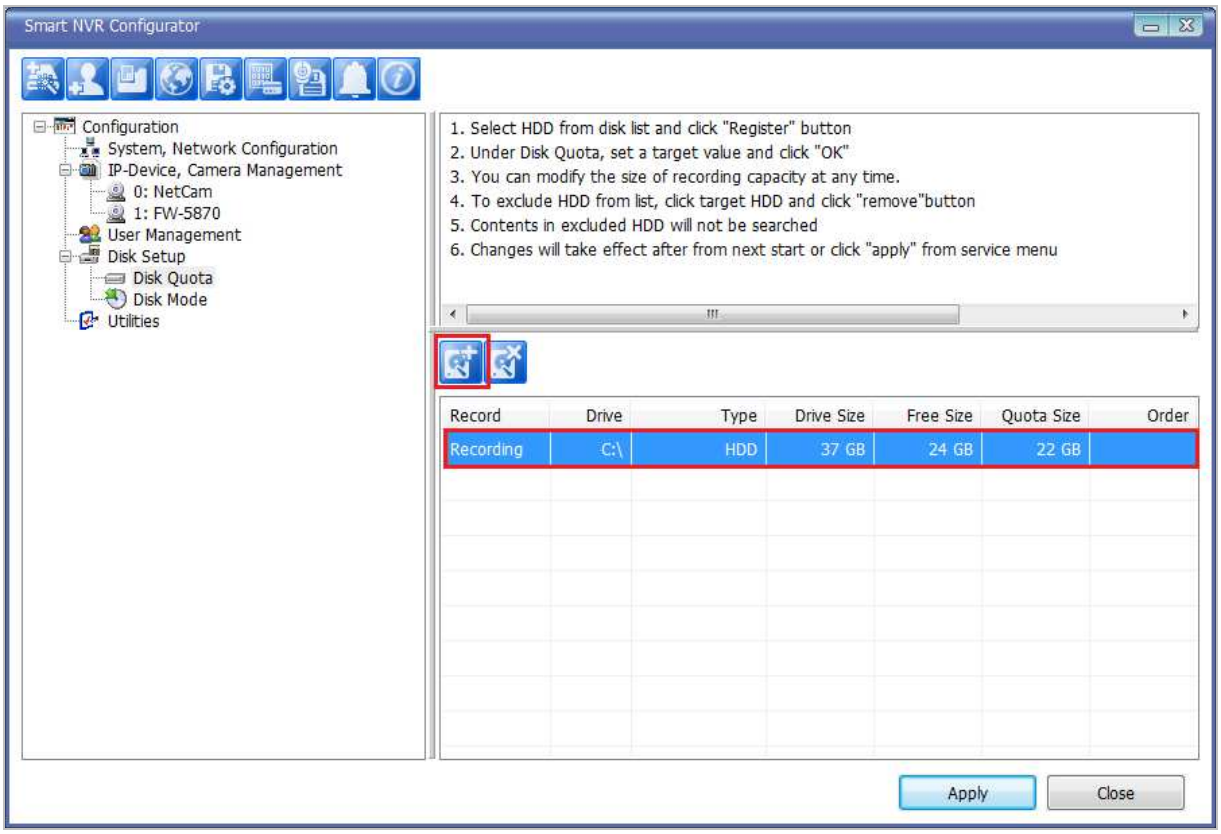


## 7.5. Recording Video

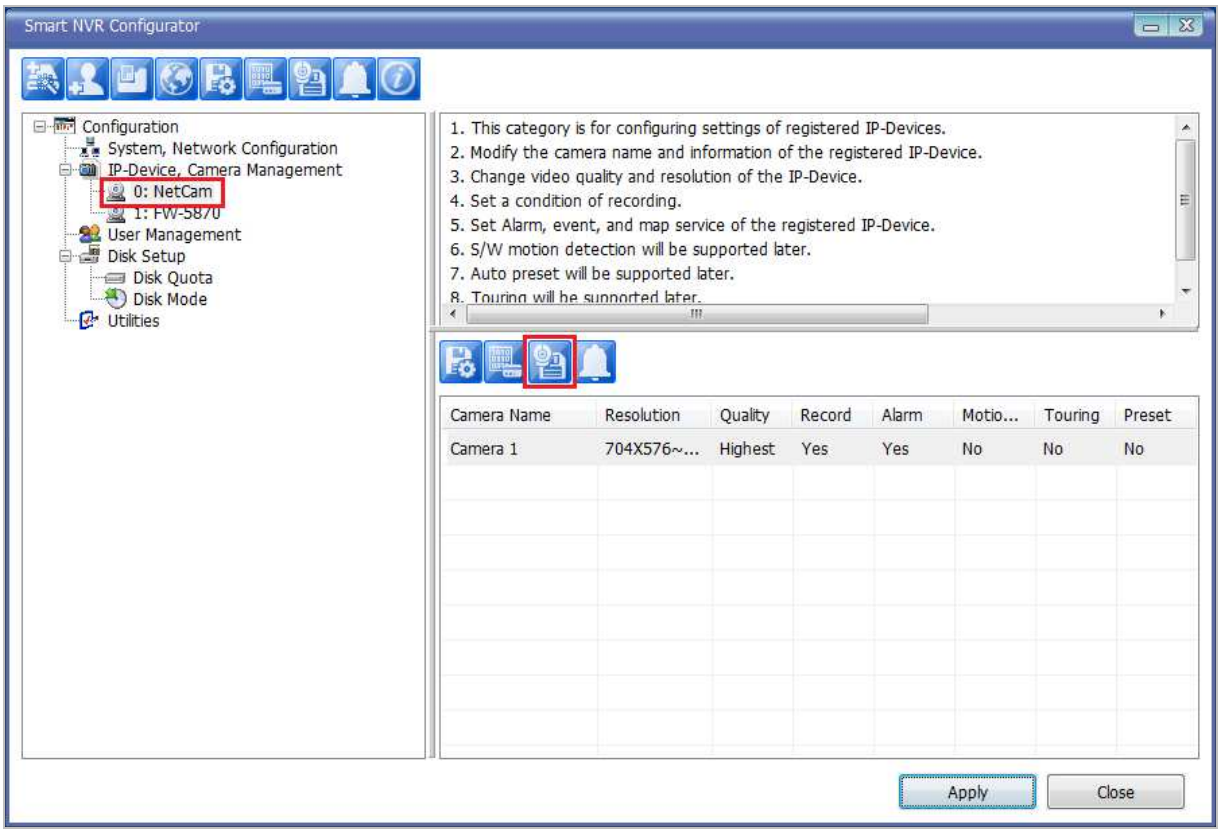
Now go back to the SmartNVR Configurator window. The essential feature of SmartNVR is recording the video from IP devices, and now you're going to configure it.

Before starting the recording, it is required to prepare the hard drive of your PC where SmartNVR program is running. Click **Disk Quota** on the Tree Menu.

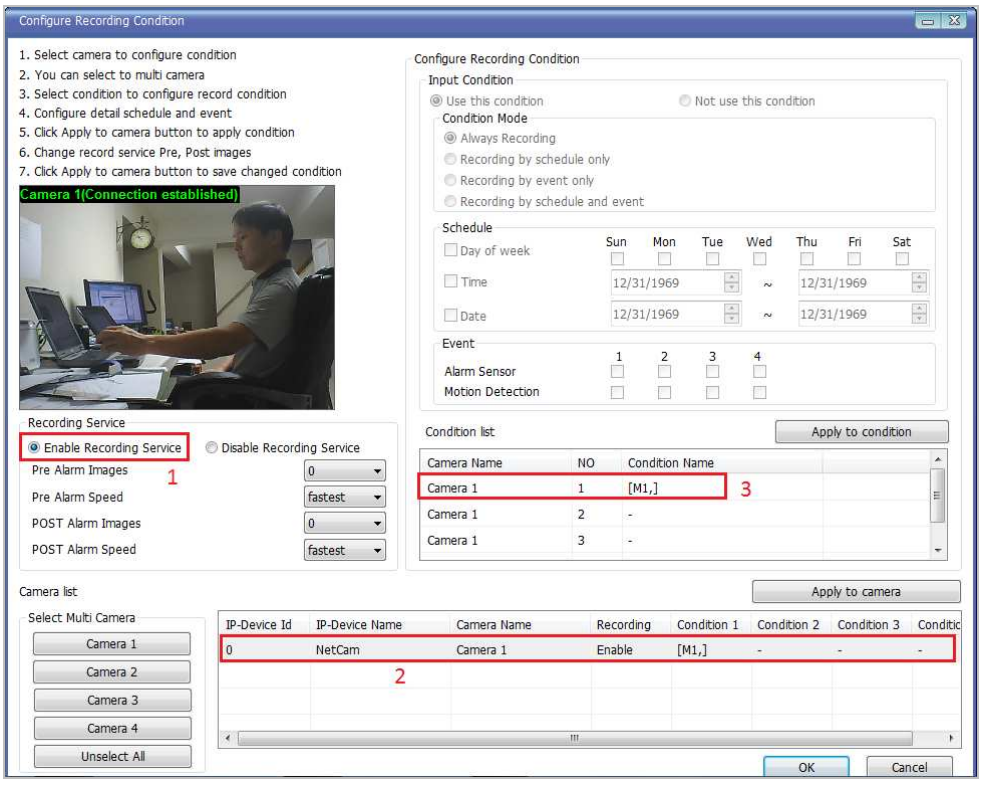
After a short period of time with a window showing the progress, the hard drive will be ready to start recording video. It shows the target drive, total capacity, available size and quota for recording. You are able to change the setting by clicking the first icon of the sub-menu Toolbar.




To set up the recording feature, select an IP device from the Tree Menu on the left pane. The device information will be shown on the right pane. Click the button for recording configuration on the sub-menu Toolbar as shown below.

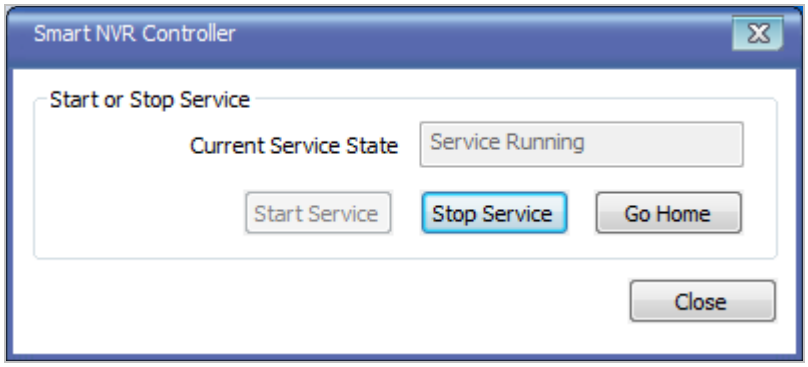



Now you will see **Configure Recording Condition** window as below.




The recording feature is already enabled and recording conditions are configured in default settings. In the example shown above, you can see that the Camera 1 of Device 0 will record the video only when there is a Motion is detected. Click **OK** button to use this conditioned recording.

Now that a basic setting is done, you need to start the SmartNVR service program. Select **Start > All Programs > FlexWATCH > SmartNVR > SmartNVR Controller**. That will start SmartNVR service run in background and the following window will be displayed.

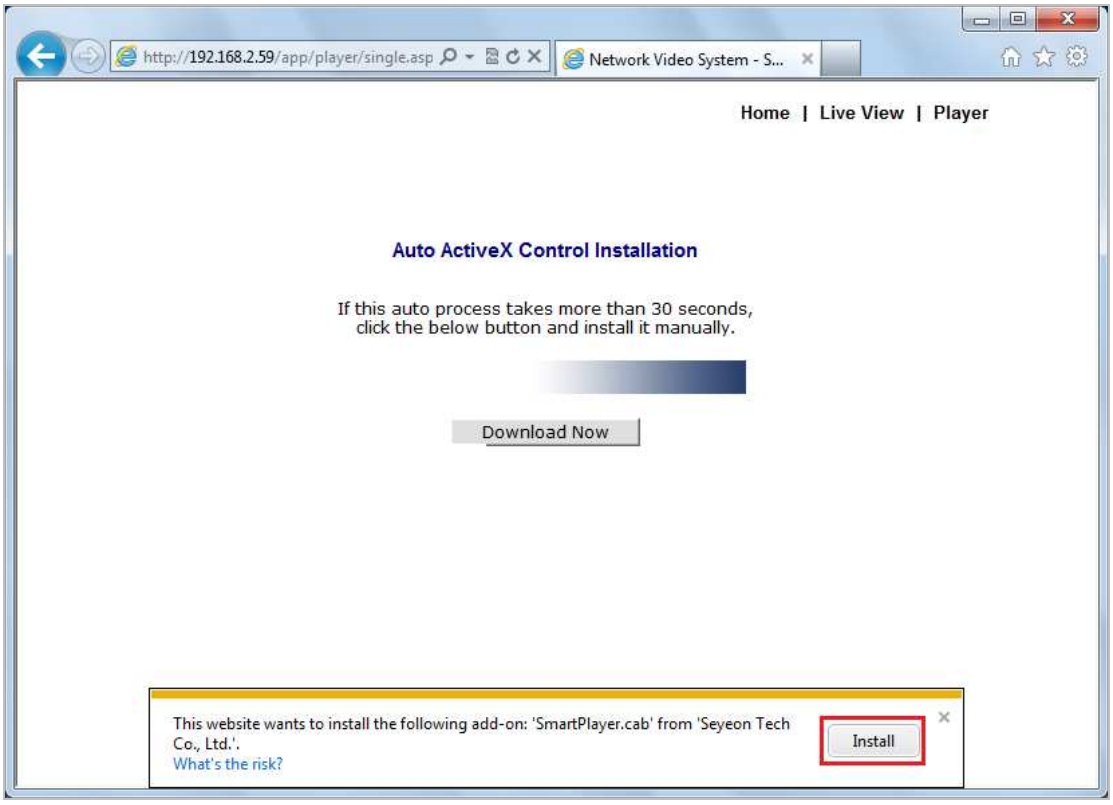



You can find it out from this window that SmartNVR service is running at the moment. If not, click **Start Service** button to make it run. Once SmartNVR service is started, the video sent from the configured camera will be recorded according to the recording condition.

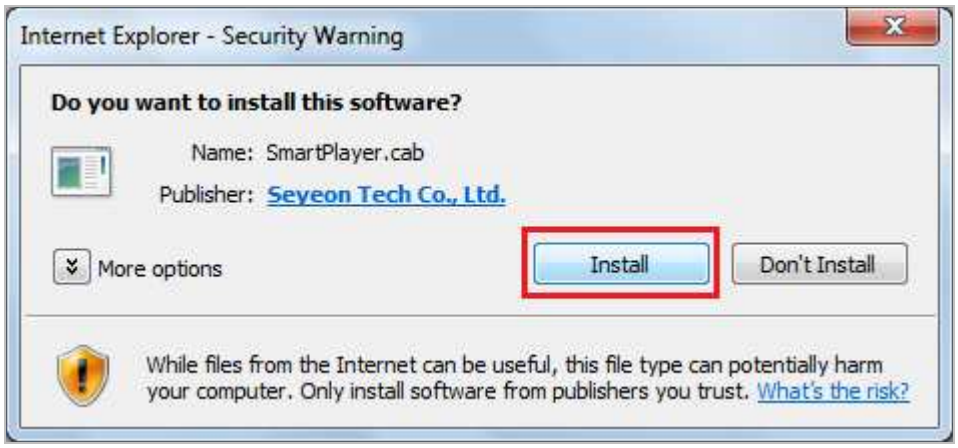
## 7.6. Searching and Playing Back Video

You can search the recorded video and play it back. It can be done with SmartPlayer program from the homepage of SmartNVR on your web browser. Click **Player** on the web SmartNVR homepage.

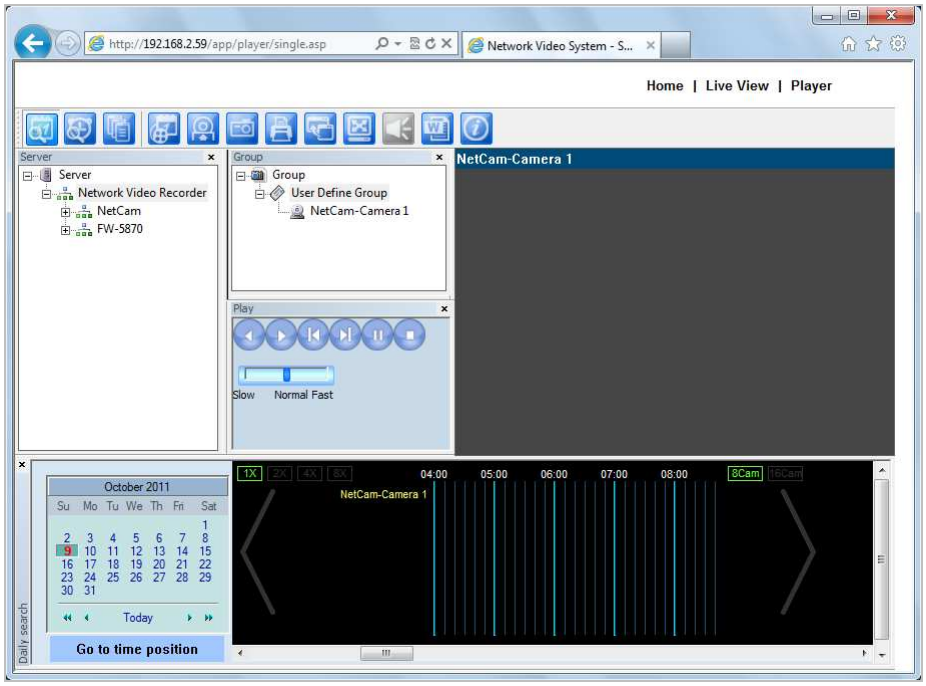
If this is the first time you use FlexWATCH SmartPlayer program, the web browser may ask you to allow installing an ActiveX program. Click **Install** to proceed.


http://192.168.2.59/app/player/single.asp
Network Video System - S...
Home | Live View | Player
Auto ActiveX Control Installation
If this auto process takes more than 30 seconds,
click the below button and install it manually.
Download Now
This website wants to install the following add-on: 'SmartPlayer.cab' from 'Seyeon Tech Co., Ltd.'.
What's the risk?
Install

After a moment, the following security warning window will be shown. Click **Install** button.

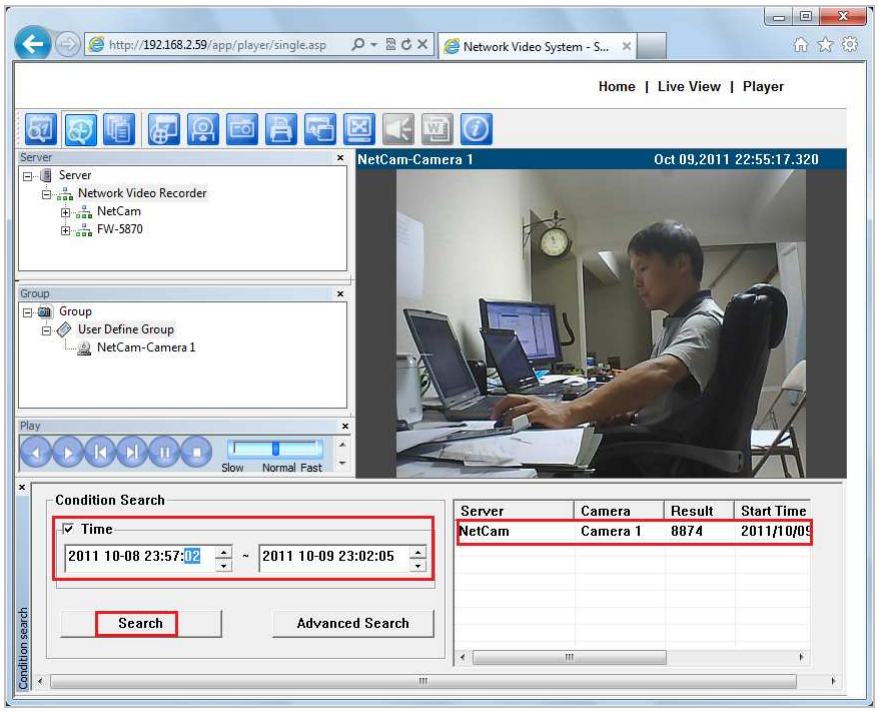

Internet Explorer - Security Warning
Do you want to install this software?
Name: SmartPlayer.cab
Publisher: Seyeon Tech Co., Ltd.
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

Now the web browser will display the SmartPlayer program, which enables you search and playback the recorded video.




To simply check if video recording is being done, enter **Condition Search** Mode by clicking the second button of the Toolbar on top of the window.

In **Condition Search** group, set the searching time range a little bit past so that it will be able to find the video which was captured just before. Click **Search** button. You will see the result be shown on the lower right side of the window. Click the result, and the recorded video will play back on the window.

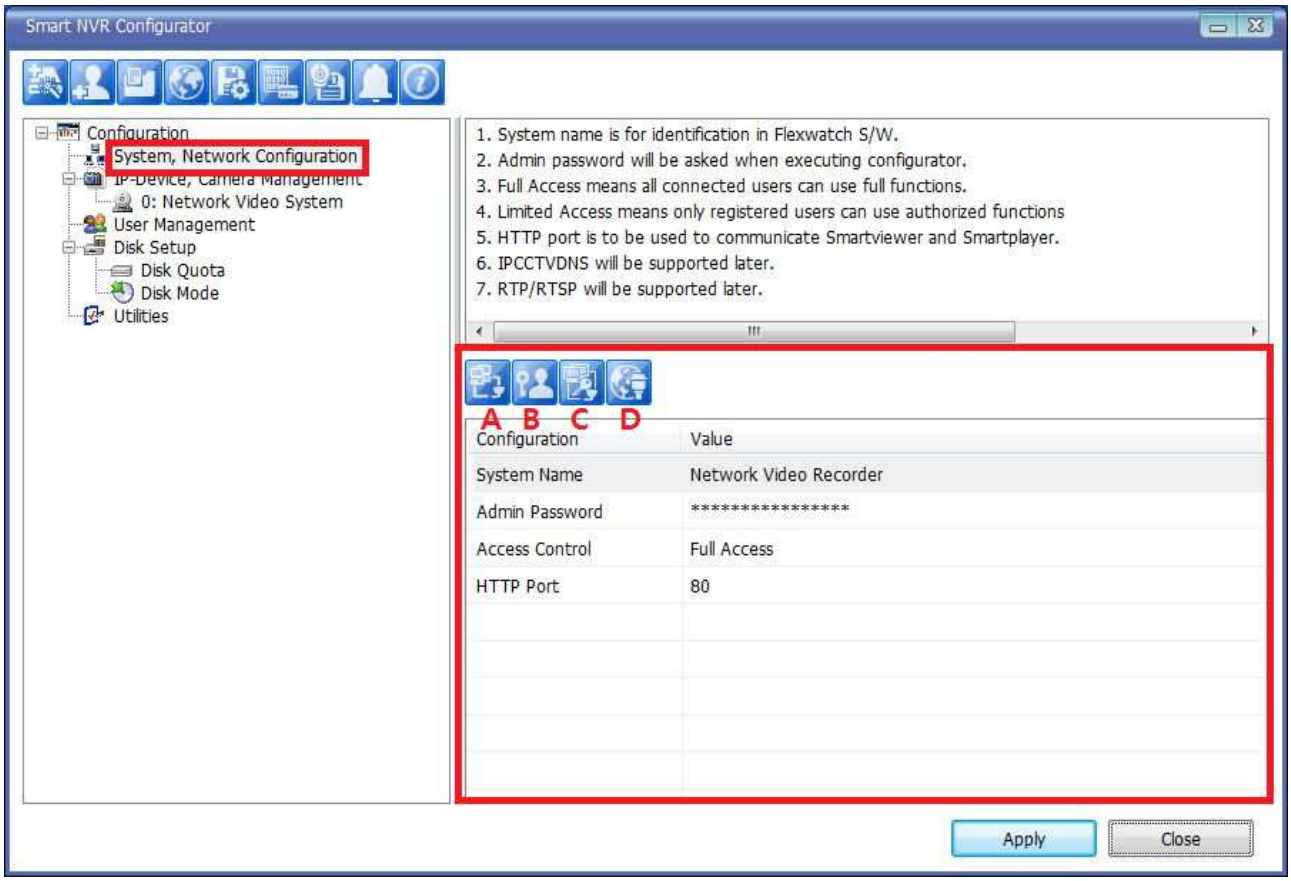



This chapter, **Quick Start Guide**, is intended to give you the clear understanding of how SmartNVR can be used. If you have come through up to this stage, you are now pretty much aware of how SmartNVR works in principal. SmartNVR has a lot more features and functionalities than you learned from this chapter. For further detail of using SmartNVR effectively, please read the following chapters thoroughly.

# 8. SmartNVR Configuration

## 8.1. System, Network Configuration

General system and network properties of SmartNVR program can be set up in this section. To start, select **System, Network Configuration** from the menu list.




| | | Items | Descriptions |
|---|---|---|---|
| | A | System Name Setting | Enter the system's name. |
| | B | Set up Admin password | Modify the password for Admin. |
| | C | Access Control | Configure the access privileges of users. |
| | D | HTTP Port Assign | Assign an HTTP Port for SmartNVR Service. |

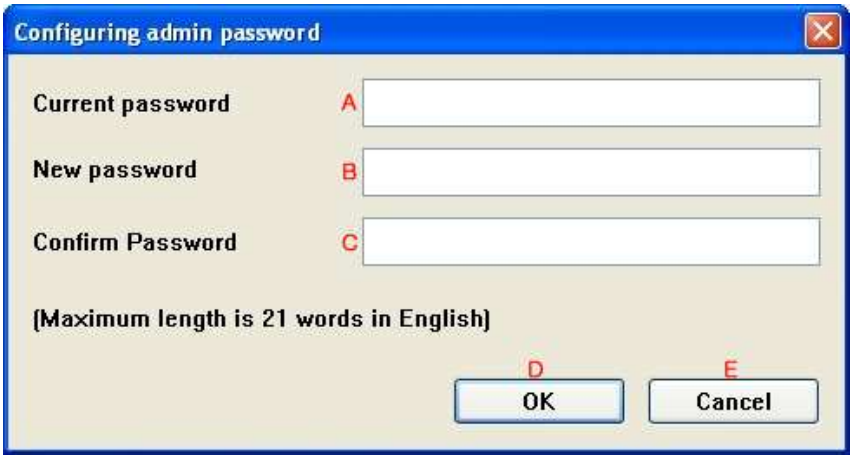
### 8.1.1. Configuring System name

To define a name to the system, click the 1'st button on the tool bar, or you can double click the **System Name**. The following window will be displayed. Change the name as desired.

| | Items | Descriptions |
|---|---|---|
| A | System name | Type in a System name. |
| B | OK | Click this button to apply the entered System Name. |
| C | Cancel | Click this button to discard the configured System name. |

### 8.1.2. System, Network Configuration - Admin password

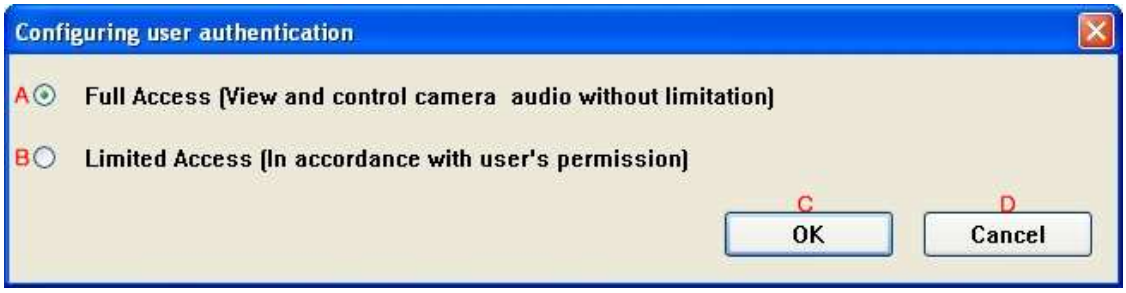
To assign Password for the admin, click **System, Network Configuration** on the tree menu. Click the 2'nd button on the sub-menu toolbar, or double click **Admin Password**.




| | Items | Descriptions |
|---|---|---|
| A | Current password | Enter the Current password. |
| B | New password | Enter a new password to use. |
| C | Confirm Password | Enter the new password again to confirm. |
| D | OK | Click this button to apply the changed password. |
| E | Cancel | Click this button to discard the change. |

### 8.1.3. System, Network Configuration - Access Control

To configure User Access Control, click **System, Network Configuration** on the tree menu. Click the 3'rd button on the sub-menu toolbar, or double click **Access Control** button.




| | Items | Descriptions |
|---|---|---|
| A | Full Access | Set Full Access for the user. Anyone can connect to the SmartNVR without authentication, and be allowed live view, audio, PTZ, playback. |
| B | Limited Access | Set Limited Access for the user. Only the users with proper permission to the camera can access it. |
| C | OK | Click this button to apply the change. |
| D | Cancel | Click this button to discard the change. |

### 8.1.4. System, Network Configuration - HTTP Port

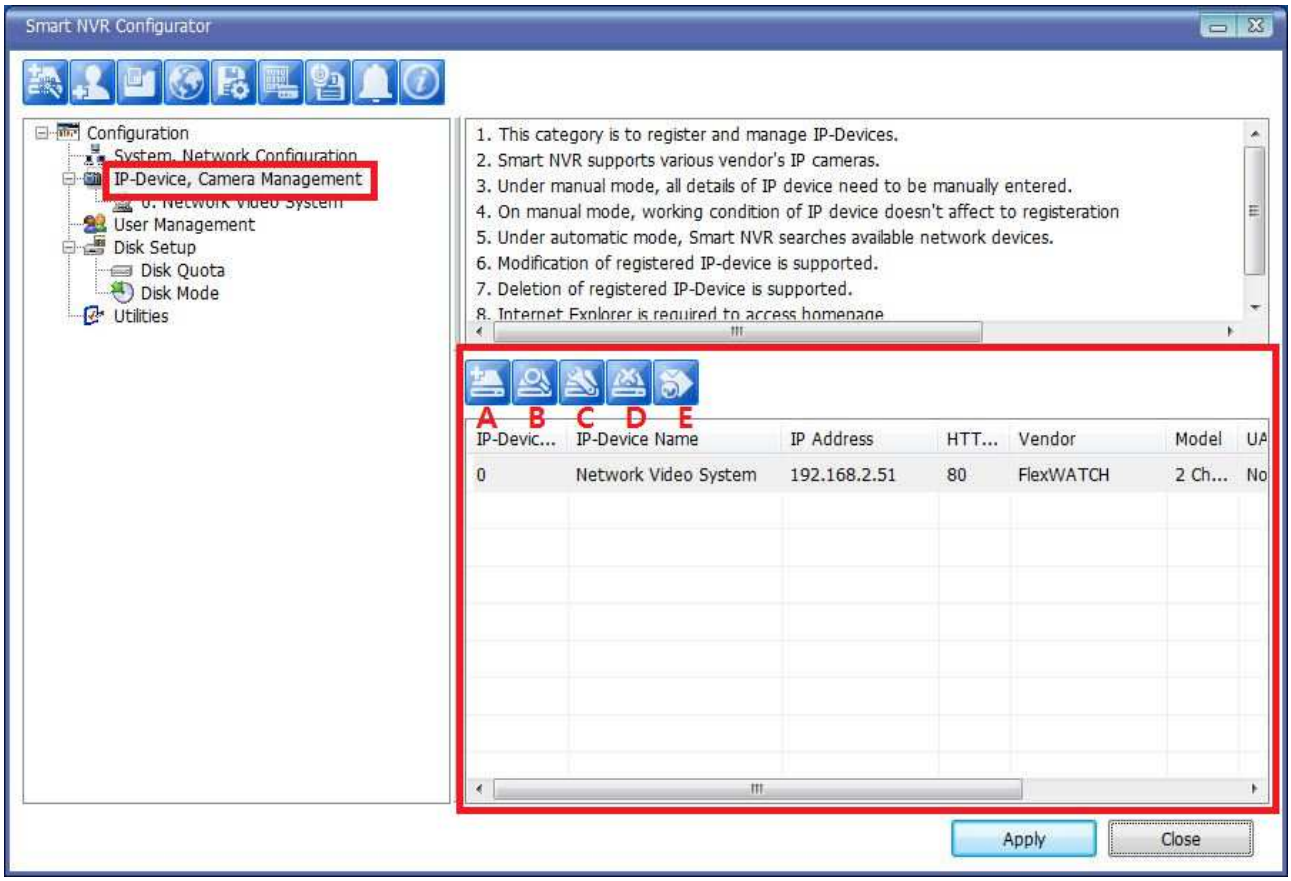
To configure HTTP port to use, click **System, Network Configuration** on the tree menu. Then click the 4'th button on the tool bar, or double click **HTTP Port**.

| | Items | Descriptions |
|---|---|---|
| A | HTTP Port | Enter a HTTP Port to use in the SmartNVR Service. (Default is 80) |
| B | OK | Click this button to apply the changed HTTP port number. |
| C | Cancel | Click this button to apply discard the changed port number. |

*Note: If a firewall is enabled in your Windows, you should set the above HTTP port number to be allowed in your computer.*

## 8.2. IP-Device Registration

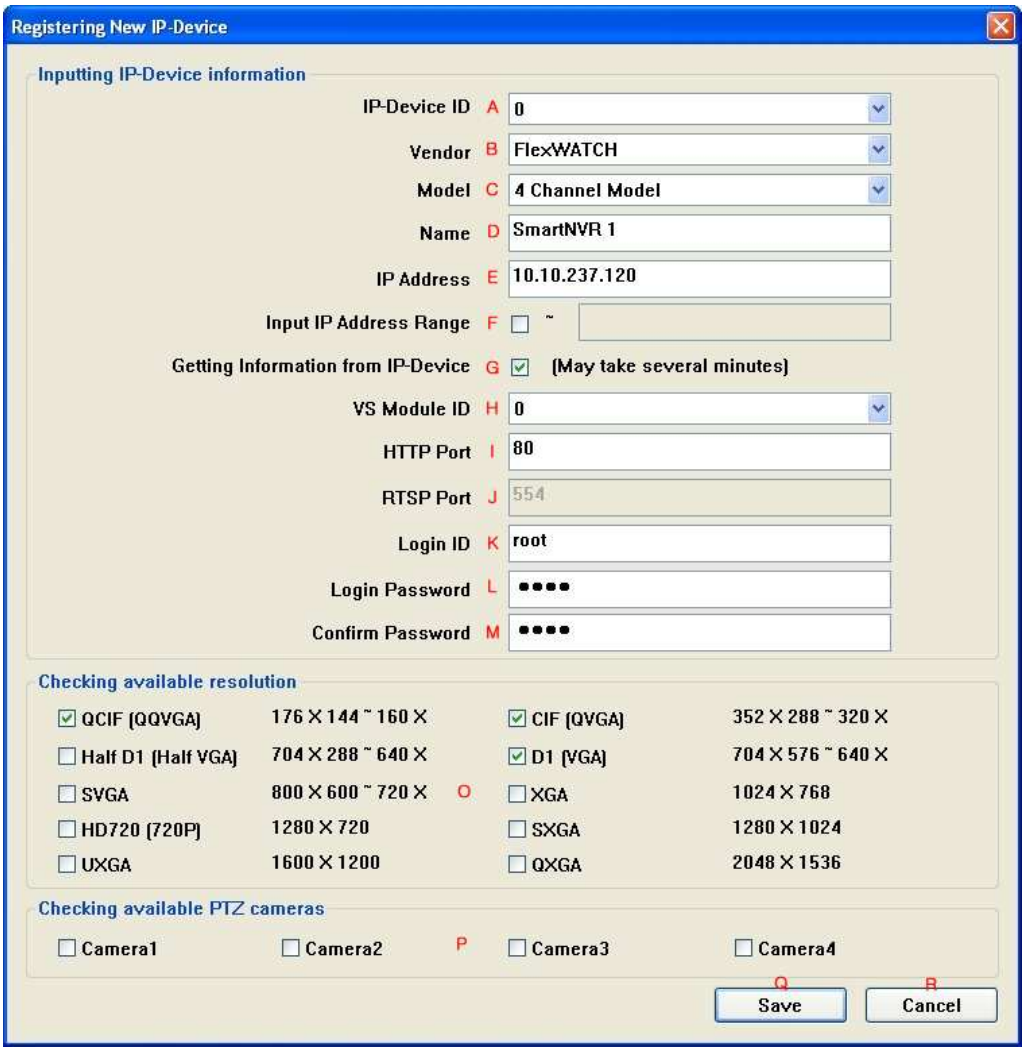
You will see how to manage IP devices in this section, which includes registering, modifying, and deleting IP devices. To start managing IP devices, select **IP-Device, Camera Management** from the menu list.

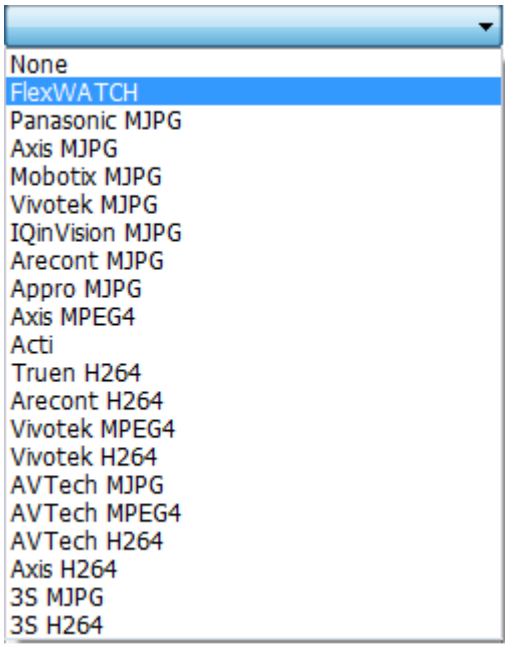
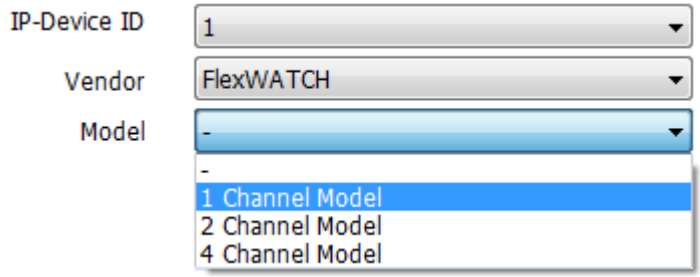



| | | Items | Descriptions |
|---|---|---|---|
| | A | IP-Device Manual Registration | Register IP-Devices manually by users. |
| | B | IP-Device Automatic Registration | Scan and register IP-Devices automatically by the program. |
| | C | IP-Device Modification | Modify the information of registered IP-Devices. |
| | D | IP-Device Deletion | Delete IP-Devices previously registered. |
| | E | IP-Device Homepage | Go to the homepage of the IP-Device. |

### 8.2.1. IP-Device Registration (Manual)

To manually register an IP-Device, click IP**-Device, Camera Management** on the tree menu. Click the 1'st button on the sub-menu tool bar.


Registering New IP-Device
Inputting IP-Device information
IP-Device ID A 0
Vendor B FlexWATCH
Model C 4 Channel Model
Name D SmartNVR 1
IP Address E 10.10.237.120
Input IP Address Range F ~
Getting Information from IP-Device G (May take several minutes)
VS Module ID H 0
HTTP Port I 80
RTSP Port J 554
Login ID K root
Login Password L
Confirm Password M
Checking available resolution
QCIF (QQVGA) 176 X 144 ~ 160 X
CIF (QVGA) 352 X 288 ~ 320 X
Half D1 (Half VGA) 704 X 288 ~ 640 X
D1 (VGA) 704 X 576 ~ 640 X
SVGA 800 X 600 ~ 720 X
O
XGA 1024 X 768
HD720 (720P) 1280 X 720
SXGA 1280 X 1024
UXGA 1600 X 1200
QXGA 2048 X 1536
Checking available PTZ cameras
Camera1
Camera2
P
Camera3
Camera4
Q
Save
R
Cancel

| | Item | Description |
|---|---|---|
| A | IP-Device ID | Select the IP-Device ID to register. |
| B | Vendor | Select the Vendor name of the IP-Device to register. Click the pull-down list, and choose a proper vendor name from the list.<br>  |
| C | Model | Select the total number of channels the IP device has. Click the pull-down list, and choose proper one from the list.<br>  |
| D | Name | Type in the name of the IP-Device. |
| E | IP Address | Type in the IP Address to use with the IP-Device. IPCCTVDNS or URL addresses are also supported. (If Input IP Address Range box is checked, then the starting address of the range will be selected.) |
| F | Input IP Address Range | Enter the last IP address of the range. |
| G | Getting Information from IP-Device | Check this box if the information from IP-Device needs to be acquired. |
| H | VS Module ID | Select the VS Module ID. Enter 0 for non-FlexWATCH IP devices. FlexWATCH products can be set to 0 to 15, and default is 0. |
| I | HTTP Port | Enter the HTTP Port to use with the IP-Device. (Default is 80) |

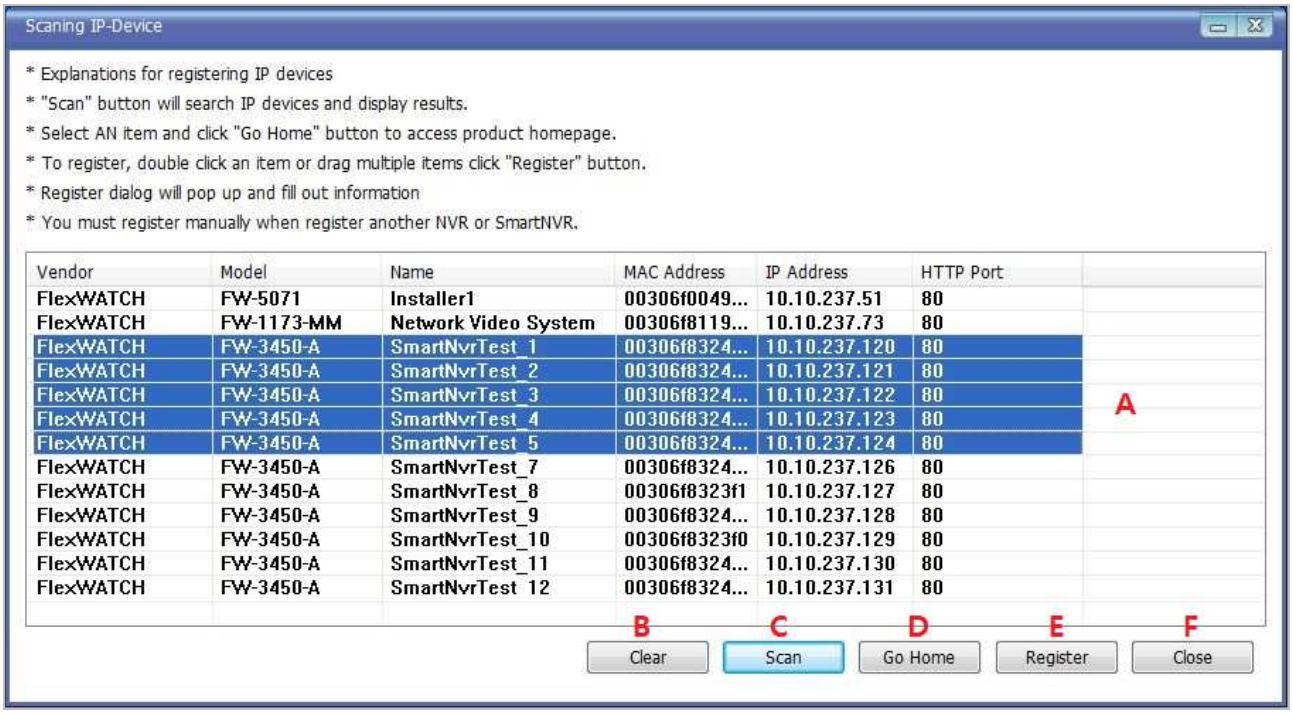
| | | |
|---|---|---|
| J | RTSP Port | Enter the RTSP Port (Default is 554) |
| K | Login ID | Type in the Login ID to use. (Default is root) |
| L | Login Password | Type in the Login Password to use for the Login ID. (Default is root) |
| M | Confirm Password | Type in the same password to confirm. (Default is root) |
| O | Checking available resolution | Select the Video Resolution for the device. |
| P | Checking available PTZ camera | Checkboxes to choose if PTZ is supported on the IP device. |
| Q | OK | Click this button to apply the configured values. |
| R | Cancel | Click this button to discard the configured values. |

*Note: In case of registering an IP device which is already put on IPCCTVDNS server, set the IP address to fw837479.ipcctvdns.com, and the HTTP port to 7733.*

| Num | Name | Mac Address | External IP | External Port | Internal IP | Internal Port | DDNS Host Name |
|---|---|---|---|---|---|---|---|
| 7 | Olympic highway | 00306F837479 | 115.93.45.235 | 7773 | 192.168.250.250 | 80 | fw837479 |
| 8 | demo(mt) | 00306F83747C | 115.93.45.235 | 7000 | 192.168.250.200 | 80 | fw83747c |
| 9 | demo(ms) | 00306F83801F | 115.93.45.235 | 7001 | 192.168.250.201 | 80 | fw83801f |
| 10 | demo(mm) | 00306F812C1E | 115.93.45.235 | 7002 | 192.168.250.202 | 80 | fw812c1e |

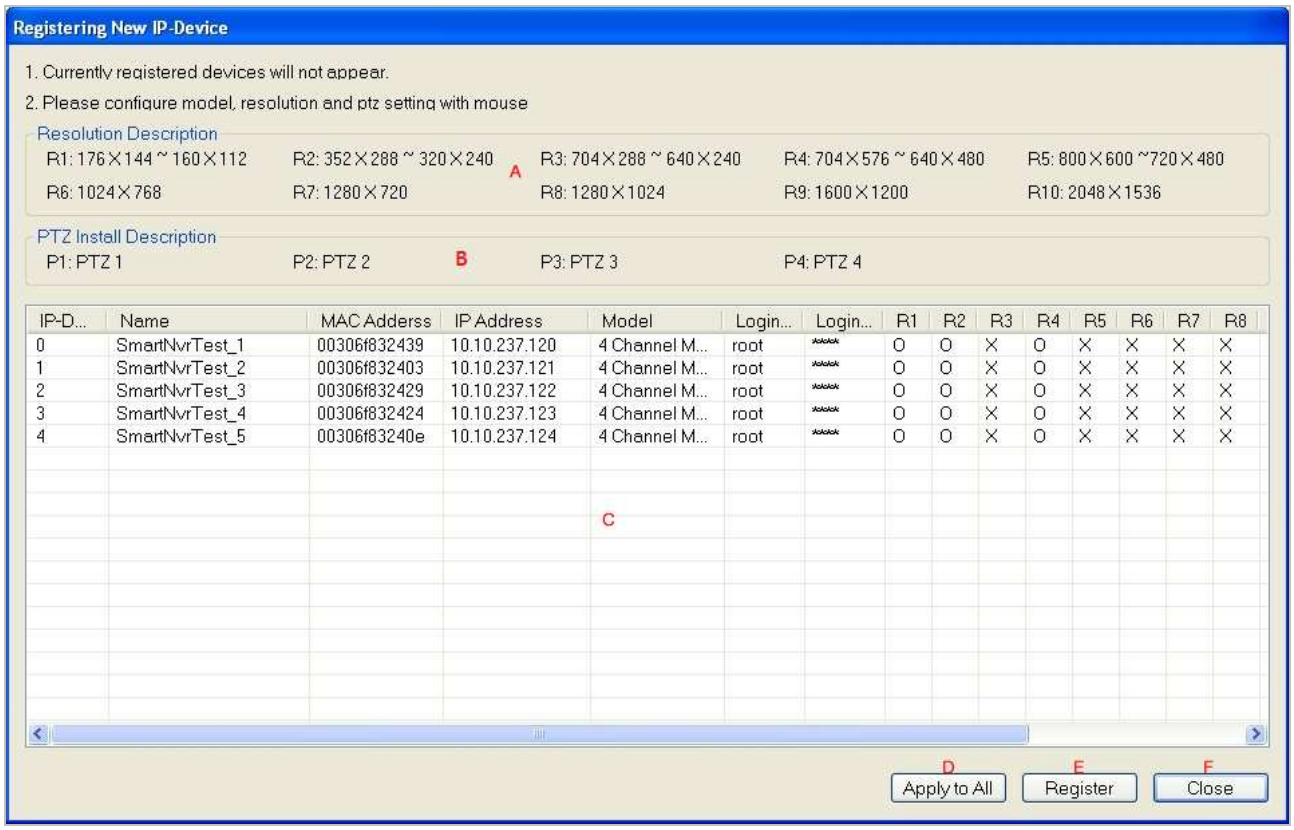
### 8.2.2. IP-Device Registration (Automatic)

To register an IP-Device by automatic scanning, click **IP-Device, Camera Management** on the tree menu. Then Click the 2'nd button on the sub-menu tool bar.


Scaning IP-Device
* Explanations for registering IP devices
* "Scan" button will search IP devices and display results.
* Select AN item and click "Go Home" button to access product homepage.
* To register, double click an item or drag multiple items click "Register" button.
* Register dialog will pop up and fill out information
* You must register manually when register another NVR or SmartNVR.
Vendor Model Name MAC Address IP Address HTTP Port
FlexWATCH FW-5071 Installer1 00306f0049... 10.10.237.51 80
FlexWATCH FW-1173-MM Network Video System 00306f8119... 10.10.237.73 80
FlexWATCH FW-3450-A SmartNvrTest_1 00306f8324... 10.10.237.120 80
FlexWATCH FW-3450-A SmartNvrTest_2 00306f8324... 10.10.237.121 80
FlexWATCH FW-3450-A SmartNvrTest_3 00306f8324... 10.10.237.122 80
FlexWATCH FW-3450-A SmartNvrTest_4 00306f8324... 10.10.237.123 80
FlexWATCH FW-3450-A SmartNvrTest_5 00306f8324... 10.10.237.124 80
FlexWATCH FW-3450-A SmartNvrTest_7 00306f8324... 10.10.237.126 80
FlexWATCH FW-3450-A SmartNvrTest_8 00306f8323f1 10.10.237.127 80
FlexWATCH FW-3450-A SmartNvrTest_9 00306f8324... 10.10.237.128 80
FlexWATCH FW-3450-A SmartNvrTest_10 00306f8323f0 10.10.237.129 80
FlexWATCH FW-3450-A SmartNvrTest_11 00306f8324... 10.10.237.130 80
FlexWATCH FW-3450-A SmartNvrTest_12 00306f8324... 10.10.237.131 80
A
B
C
D
E
F
Clear
Scan
Go Home
Register
Close

| | Items | Descriptions |
|---|---|---|
| A | IP-Device list | This list shows the IP devices found during the scan process. If you need to select multiple IP devices at the same time, drag your mouse over the devices or keep pressing CTRL or SHIFT key while clicking the IP devices. |
| B | Clear | Clear the scanned IP Devices from the list. |
| C | Scan | Start scanning for IP Devices on the network. |
| D | Go Home | Go to the home page of the IP device selected from the list. |
| E | Register | Go to the registration window for the IP Device selected. |
| F | Close | Cancel the registration of the IP device and exit the window. |

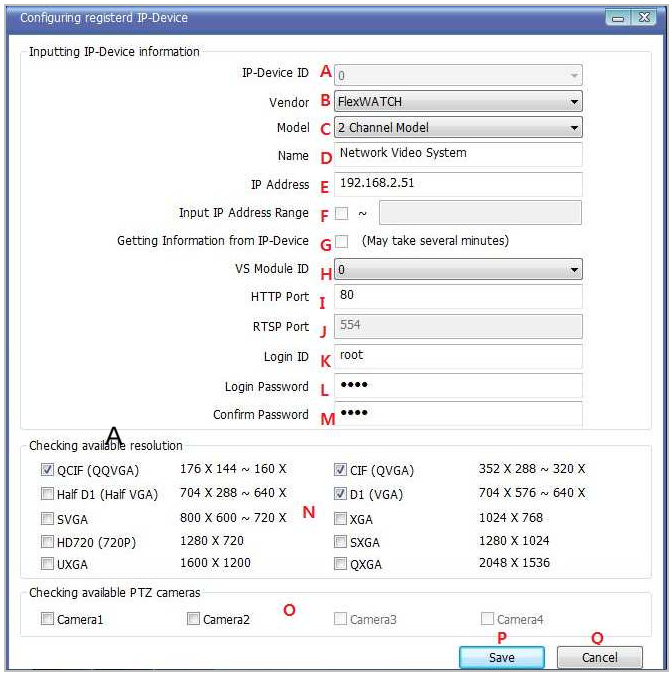
When you click the **Register** button after selecting one or more IP devices on the scanned device list, the following window will be displayed. You can register those IP devices to your SmartNVR in this window.


Registering New IP-Device
1. Currently registered devices will not appear.
2. Please configure model, resolution and ptz setting with mouse
Resolution Description
R1: 176 X 144 ~ 160 X 112
R2: 352 X 288 ~ 320 X 240
A
R3: 704 X 288 ~ 640 X 240
R4: 704 X 576 ~ 640 X 480
R5: 800 X 600 ~720 X 480
R6: 1024 X 768
R7: 1280 X 720
R8: 1280 X 1024
R9: 1600 X 1200
R10: 2048 X 1536
PTZ Install Description
P1: PTZ 1
P2: PTZ 2
B
P3: PTZ 3
P4: PTZ 4
IP-D... Name MAC Adderss IP Address Model Login... Login... R1 R2 R3 R4 R5 R6 R7 R8
0 SmartNvrTest_1 00306f832439 10.10.237.120 4 Channel M... root ***** O O X O X X X X
1 SmartNvrTest_2 00306f832403 10.10.237.121 4 Channel M... root ***** O O X O X X X X
2 SmartNvrTest_3 00306f832429 10.10.237.122 4 Channel M... root ***** O O X O X X X X
3 SmartNvrTest_4 00306f832424 10.10.237.123 4 Channel M... root ***** O O X O X X X X
4 SmartNvrTest_5 00306f83240e 10.10.237.124 4 Channel M... root ***** O O X O X X X X
C
D
Apply to All
E
Register
F
Close

| | Items | Descriptions |
|---|---|---|
| A | Resolution Description | Descriptions of the image resolution modes in the IP-Device list. (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10) |
| B | PTZ Install Description | Descriptions of the PTZ numbers in the IP-Device list. (P1, P2, P3, P4) |
| C | IP-Device list | IP-Device list to select from. |
| D | Apply to All | Click this button to copy the information of a selected IP-Device to all other devices. (Only Model, Login ID, and Login Password will be copied.) |
| E | Register | Click this button to confirm and save the registered IP-Device added. |
| F | Cancel | Click this button to cancel IP-Device registration. |

### 8.2.3. IP-Device Modification

To modify an IP-Device registration, Click the 3'rd button on the sub-menu tool bar, or double click an IP Device in the right pane.




| | Items | Descriptions |
|---|---|---|
| A | IP-Device ID | IP-Device ID is displayed. (not allowed to modify) |
| B | Vendor | Select the Vendor of the device. |
| C | Model | Select how many channels the device support. |
| D | Name | Change the Name as required. |
| E | IP Address | Enter the IP Address to use with the selected device. |
| F | Input IP Address Range | (not allowed to modify) |
| G | Getting Information from IP-Device | (not allowed to modify) |
| H | VS Module ID | Select the VS Module ID. Enter 0 for non-FlexWATCH IP devices. FlexWATCH products can be set to 0 to 15, and default is 0. |
| I | HTTP Port | Enter the HTTP Port to use with the IP-Device. (Default is 80) |
| J | RTSP Port | Enter the RTSP Port (Default is 554) |
| K | Login ID | Type in the Login ID to use. (Default is root) |
| L | Login Password | Type in the Login Password to use for the Login ID. (Default is root) |
| M | Confirm Password | Type in the same password to confirm. (Default is root) |
| N | Checking available resolution | Select the Video Resolution for the device. |
| O | Checking available PTZ camera | Checkboxes to choose if PTZ is supported. |
| P | OK | Click this button to apply the changed values. |
| Q | Cancel | Click this button to discard the changed values. |

### 8.2.4. IP-Device Deletion

To delete a registered IP-Device, click **IP-Device, Camera Management** on the tree menu in the left pane. Then select an IP device to be deleted from the list. Click the 4'th button on the sub-menu tool bar.

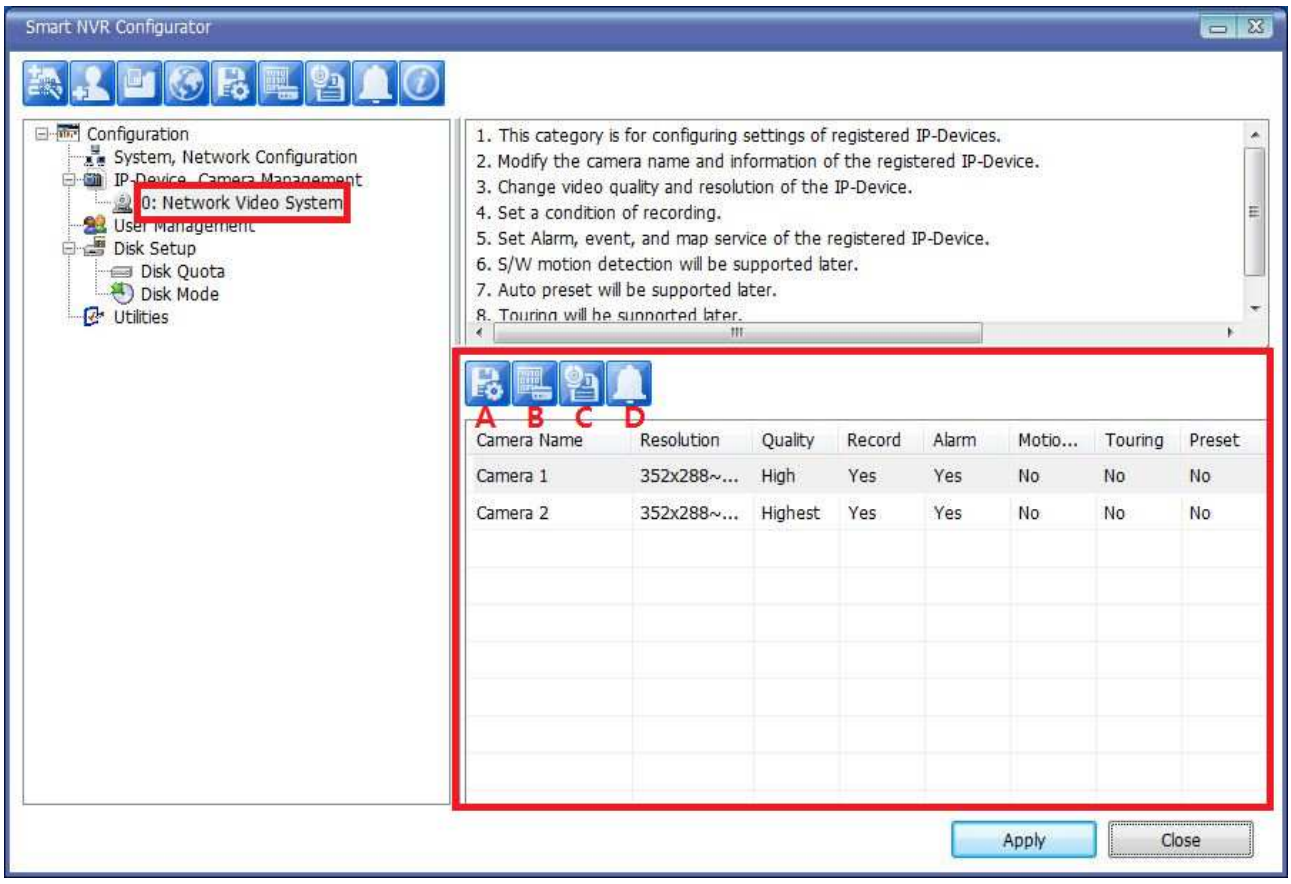
### 8.2.5. IP-Device Homepage

To go to the home page of an IP-Device, click the **IP-Device, Camera Management** on the tree menu. Then select the IP device to delete. Click the 5'th button on the sub-menu tool bar.

## 8.3. Camera Management

In this section, you will see how to manage the device information, video resolutions, recording configuration, and alarm event configuration. Firstly, select a camera name under **IP-Device, Camera Management** on the tree menu.

When you select **IP-Device, Camera Management** on the tree menu, it will show **Camera Management** sub-menu. You can configure cameras here. The following picture shows when you selected an IP-device in the tree menu. The sub-menu toolbar changes accordingly to your selection.

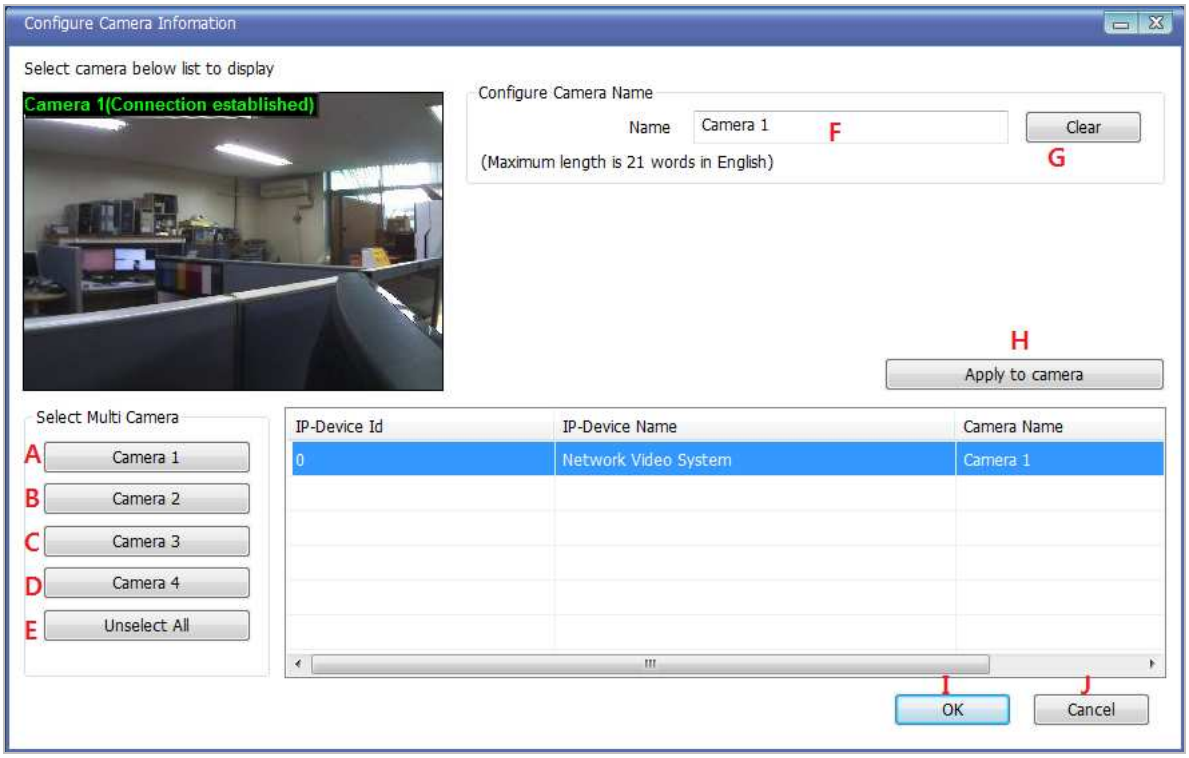

Smart NVR Configurator
Configuration
System, Network Configuration
IP-Device, Camera Management
0: Network Video System
User Management
Disk Setup
Disk Quota
Disk Mode
Utilities
1. This category is for configuring settings of registered IP-Devices.
2. Modify the camera name and information of the registered IP-Device.
3. Change video quality and resolution of the IP-Device.
4. Set a condition of recording.
5. Set Alarm, event, and map service of the registered IP-Device.
6. S/W motion detection will be supported later.
7. Auto preset will be supported later.
8. Touring will be supported later.
A B C D
Camera Name Resolution Quality Record Alarm Motio... Touring Preset
Camera 1 352x288~... High Yes Yes No No No
Camera 2 352x288~... Highest Yes Yes No No No
Apply
Close

| | Items | Descriptions |
|---|---|---|
| A | Camera Information | Configure Information of the selected camera. |
| B | Resolution and Quality | Choose the resolution and quality of cameras. |
| C | Recording Conditions | Set up recording conditions. |

| | | | |
|---|---|---|---|
| | D | Alarm and Map service settings | Configure Alarm and Map service functions. |

### 8.3.1. Configure Camera Information

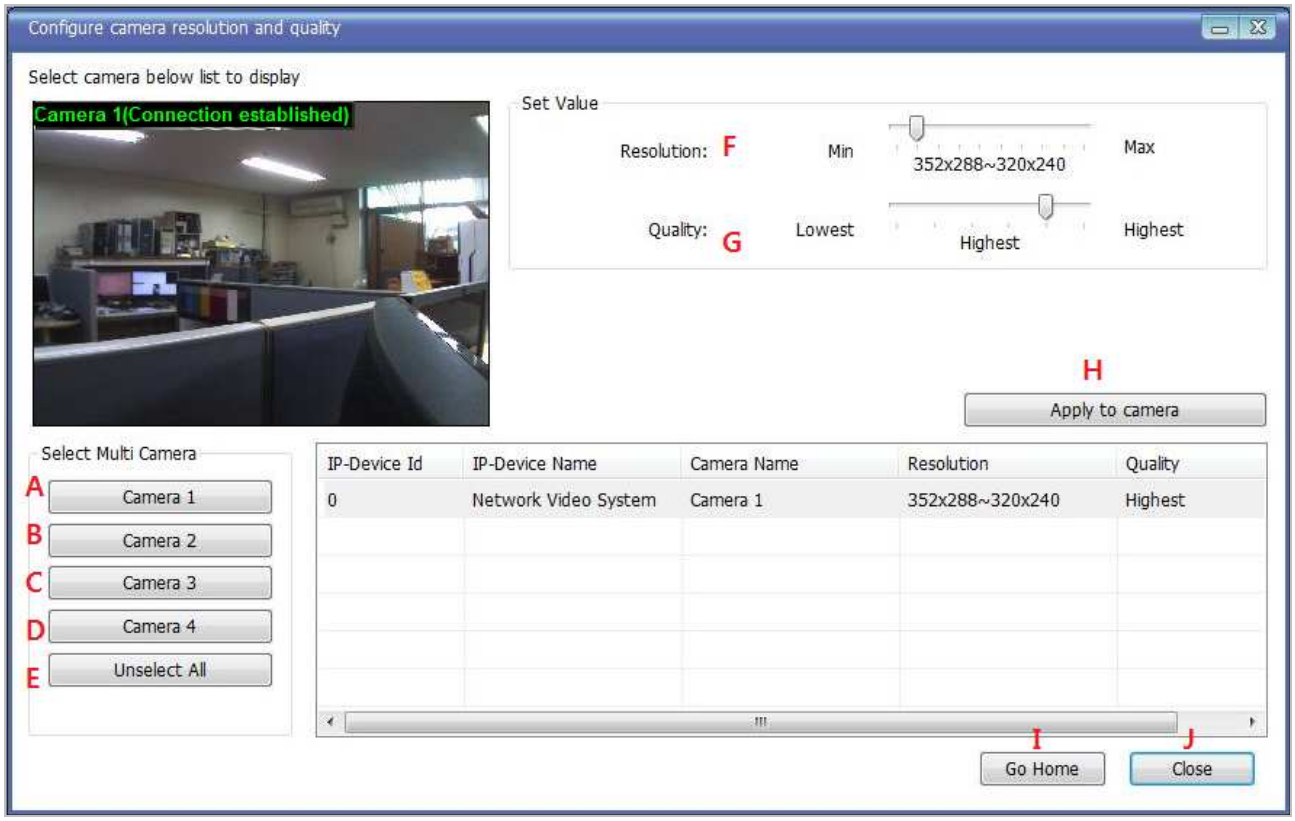
From the device list, select a camera to be assigned with a name. Then click the 1'st button on the tool bar, or you can also double click the camera to be assigned.




| | Items | Descriptions |
|---|---|---|
| A,B,C,D | Camera Selection | Select one or more cameras for name assignment by clicking buttons. |
| E | Unselect All | Clear the device list which shows the selected cameras. |
| F | Name | Type in a camera name. |
| G | Clear | Clear the camera name field. |
| H | Apply to Camera | Apply the changed camera name to the system. |
| I | OK | Click this button to confirm the change and close the window. |
| J | Cancel | Click this button to cancel the change and close the window. |

### 8.3.2. Camera Resolution, Quality

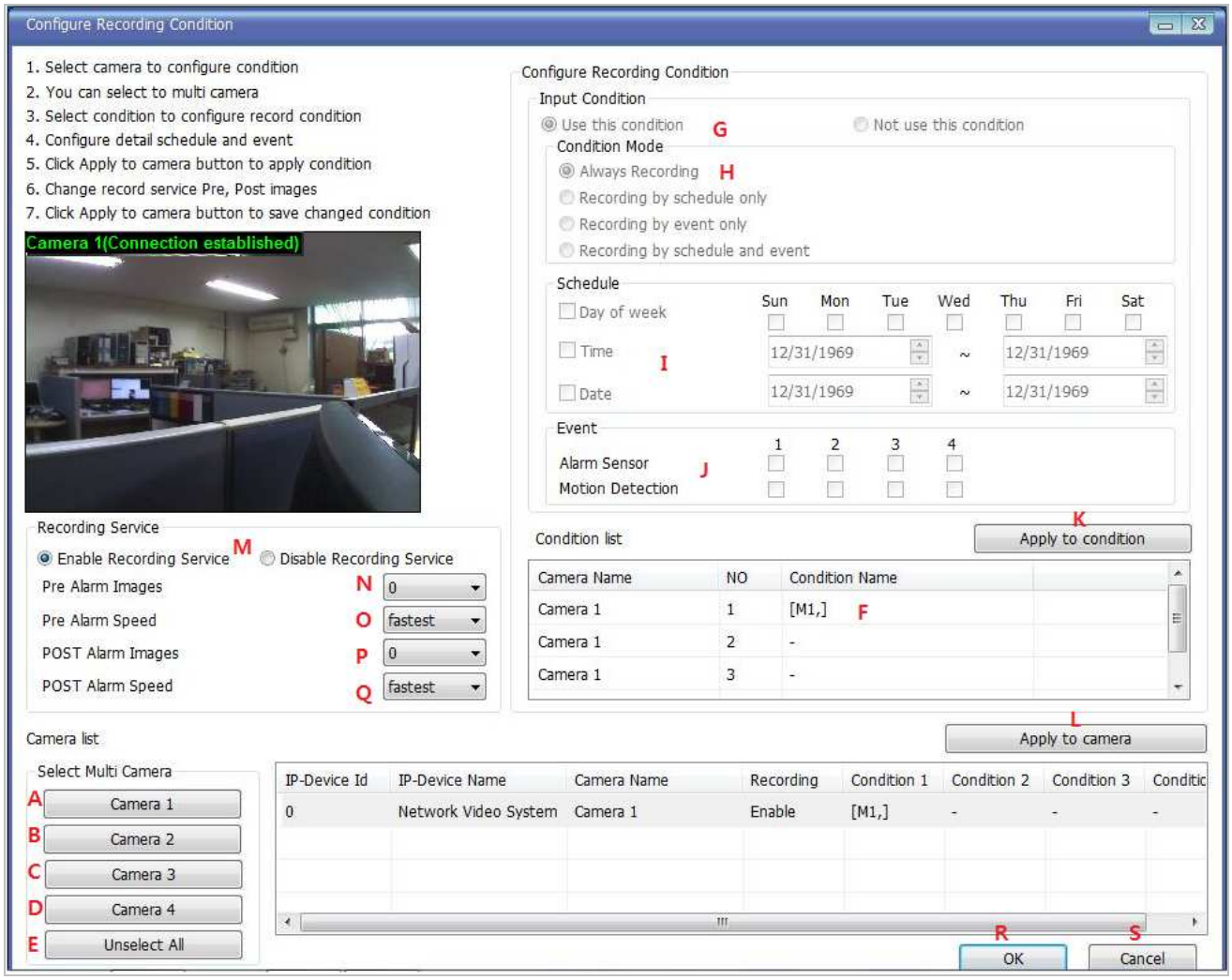
To configure a camera's resolution and video quality, select a camera to configure and click the 2'nd button on the sub tool bar.




| | Items | Descriptions |
|---|---|---|
| A,B,C,D | Camera Selection | Select one or more cameras by clicking buttons. |
| E | Unselect All | Clear the device list which shows the selected cameras. |
| F | Resolution | Select the video resolution. |
| G | Quality | Select the video quality. |
| H | Apply to Camera | Apply the selected video resolution and quality to the system. |
| I | Go Home | Go to the homepage of the product. |
| J | Close | Close and exit the window. |

### 8.3.3. Recording Configuration

To configure recording condition for a camera, select a camera to configure from the list. Then click the 3'rd button on the sub tool bar.

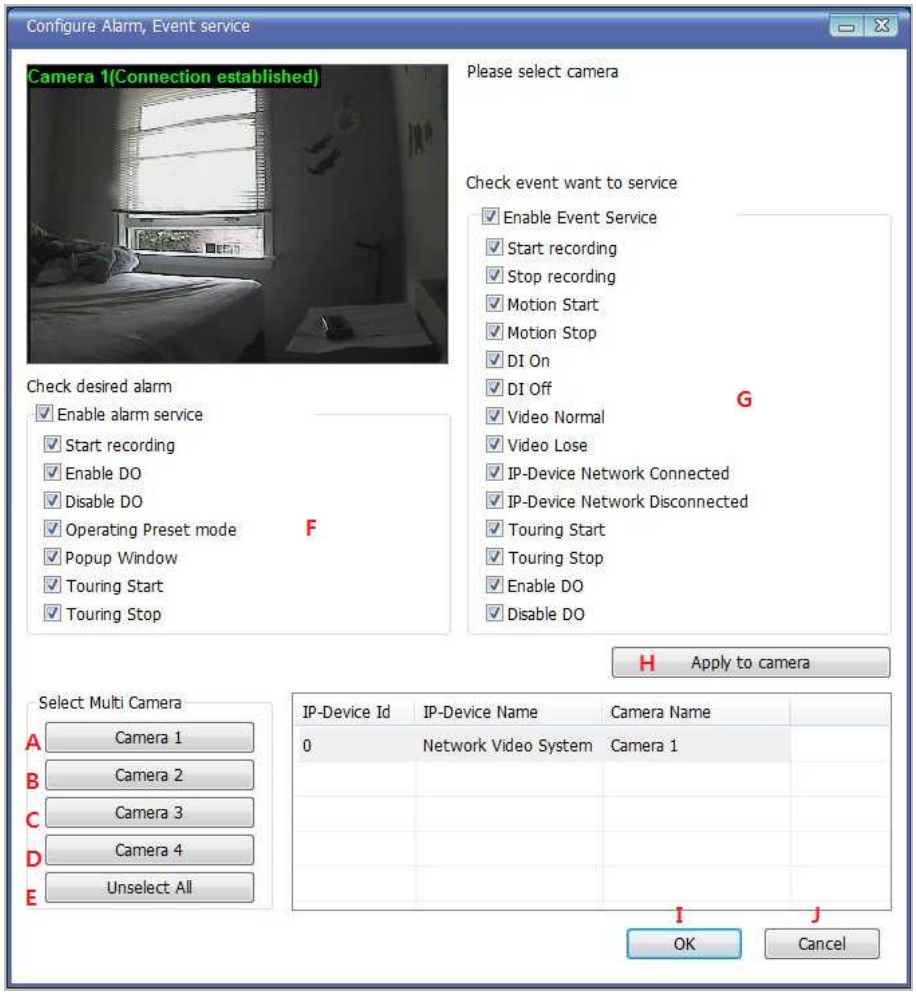



| | Item | Description |
|---|---|---|
| A,B,C,D | Camera Selection | Select one or more cameras by clicking buttons. |
| E | Unselect All | Clear the device list which shows the selected cameras. |
| F | Recording Condition | Define the condition for recording to be started. |
| G | Condition to use | Decide whether to use the defined condition or not. |
| H | Condition Mode | Select the condition mode for recording. |
| I | Scheduling | Set up the schedule for recording. |
| J | Event setup | Set up the event to initiate recording. |
| K | Apply to Condition | Apply the configured schedule and event data to condition list. |
| L | Apply to Camera | Apply the condition to camera. |
| M | Enable Recording Service | Enable this to activate the recording. When this is not enabled, it won't be saved if a recording condition is set. |

| | | |
|---|---|---|
| N | Pre Alarm Images | Select pre-alarm images. |
| O | Pre Alarm Speed | Select pre-alarm speed. |
| P | Post Alarm Images | Select post-alarm images. |
| Q | Post Alarm Speed | Select post-alarm speed |
| R | OK | Click this button to confirm the change and exit the window. |
| S | Cancel | Click this button to cancel the all the changed made in this session. |

### 8.3.4. Alarm, Event Configuration

To configure the Alarm and Event features, select a camera to configure, and then click the 4'th button on the sub tool bar.

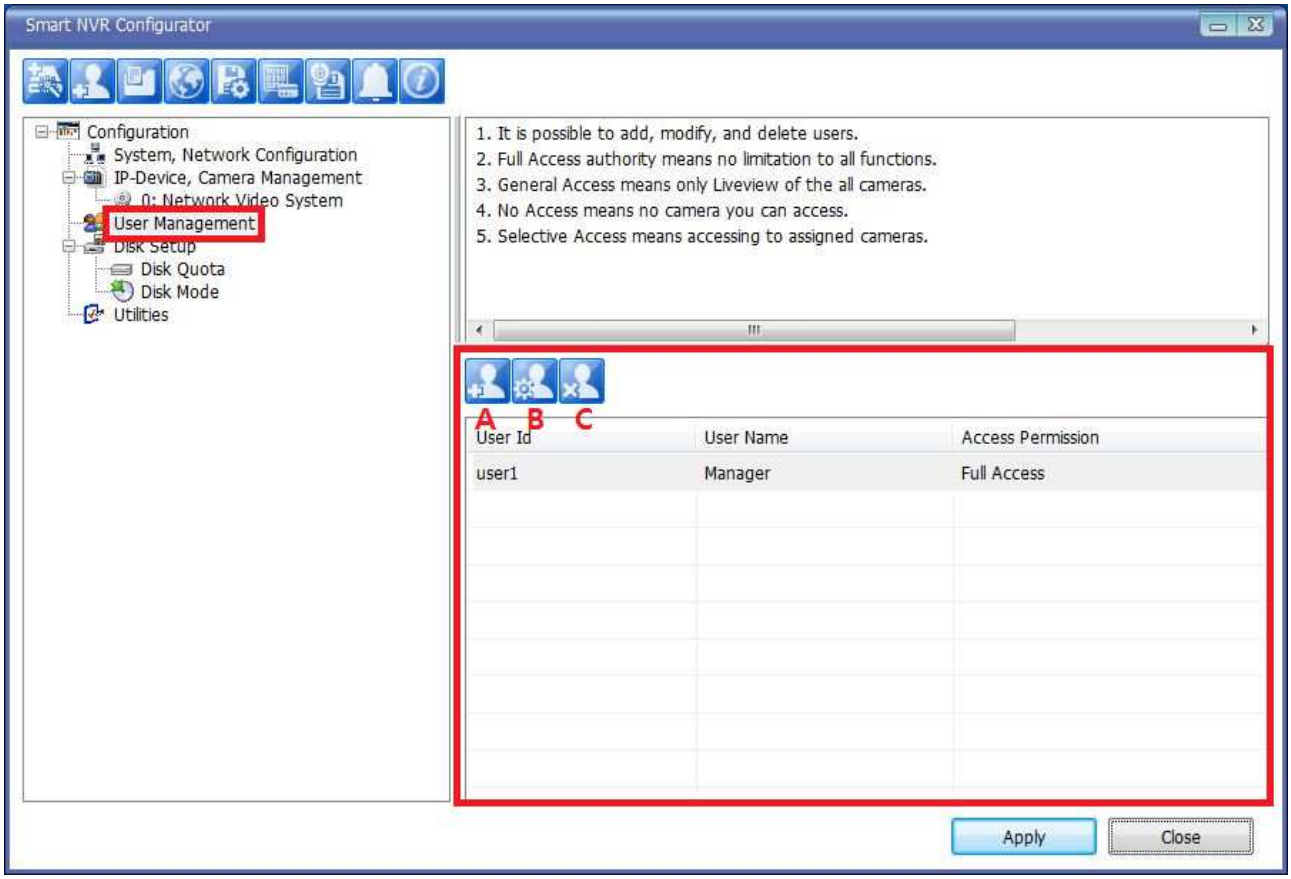



| | Item | Description |
|---|---|---|
| A,B,C,D | Camera Selection | Select one or more cameras by clicking buttons. |
| E | Unselect All | Clear the device list which shows the selected cameras. |
| F | Alarm Service Setup | Put check marks on alarm types to use. |
| G | Event Service Setup | Put check marks on event types to use. |

| | | |
|---|---|---|
| H | Apply to Camera | Click this button to apply the changes to the camera. |
| I | OK | Click this button to confirm the change and exit the window. |
| J | Cancel | Click this button to cancel the Alarm, Event configuration. |

## 8.4. User Management

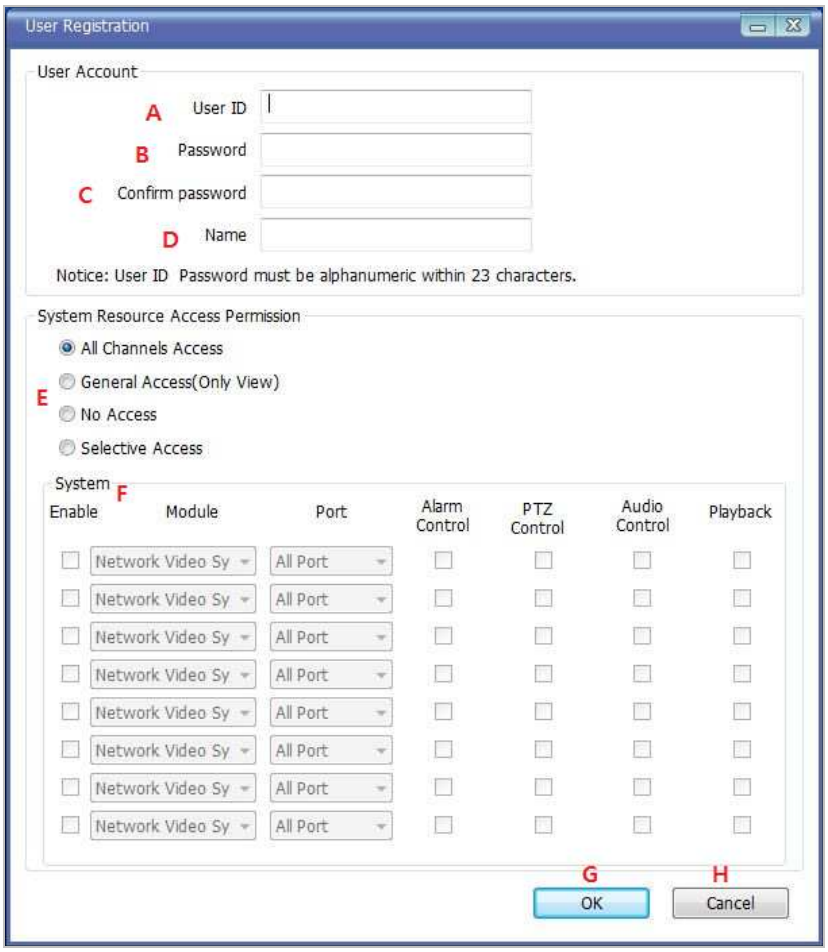
In this section, you will see how to manage user information. To start managing users, select **User Management** from the tree menu.




| | | Items | Descriptions |
|---|---|---|---|
| | A | User Registration | Register new users to the system. |
| | B | User Modification | Change the information of existing users. |
| | C | User Deletion | Remove the account of existing users. |

### 8.4.1. User Registration

To register a new user, click the 1'st button on the tool bar in the sub-menu toolbar.




| | Items | Descriptions |
|---|---|---|
| A | User ID | Enter a new User ID to register. |
| B | Password | Enter the Password for the new user. |
| C | Confirm password | Enter the same Password for confirmation. |
| D | Name | Enter the name of the new user to be registered. |
| E | System resource access permission | Choose the level of permission for System resource access.<br>• All channels access: Viewing all cameras, Alarm, PTZ, Audio, Searching<br>• General access: Viewing all cameras only<br>• No access: An user account without any access to cameras<br>• Selective access: Access to only selected cameras and privileges. |
| F | System Permission | Eight different modules can be set. The setup can be made on Module, camera, alarm, PTZ, Audio, and Search respectively. Enabling each module gives access permission to it. |
| G | OK | Click this button to apply the registration of the new user. |
| H | Cancel | Click this button to cancel the registration process. |

### 8.4.2. User Modification

To modify a user's information, select a camera to modify and click the 2'nd button on the submenu toolbar. The **User Registration** window will come up on the screen, which is the exactly same as in the previous section. Follow the same steps as used in **User Registration** for modification.

> *Note: In User Modification window, everything is the same as in User Registration except for User ID. The existing user ID cannot be changed.*

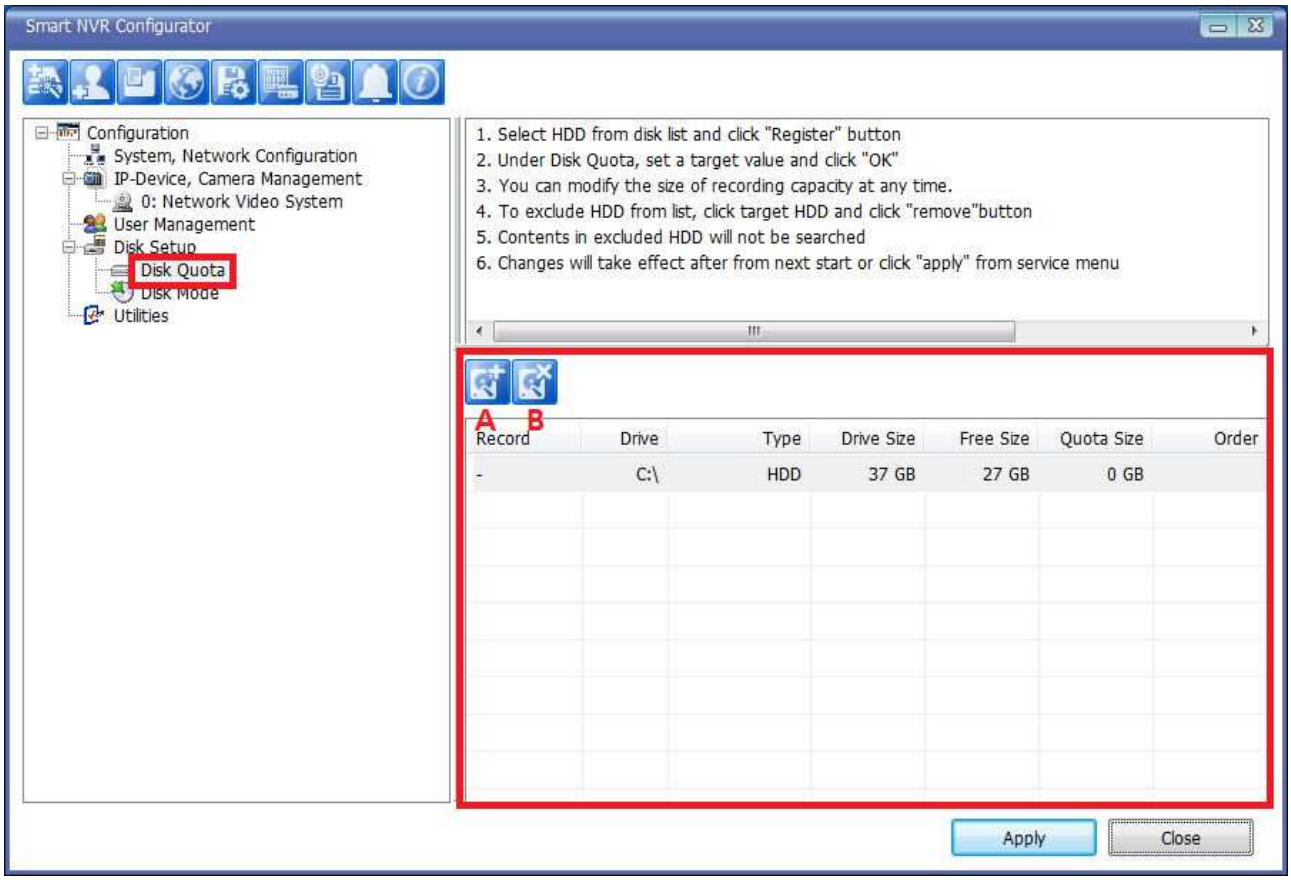
### 8.4.3. User Deletion

To delete an existing user, select a camera to be deleted on the device list. And then click the 3'rd button on the tool bar, which will delete the selected user.

## 8.5. Disk Setup

### 8.5.1. Disk Setup

When you click **Disk Setup** on the tree menu, it will show two sub-menu items. One is **Disk Quota**, and the other is **Disk Mode**. The following window shows the **Disk Quota** mode.

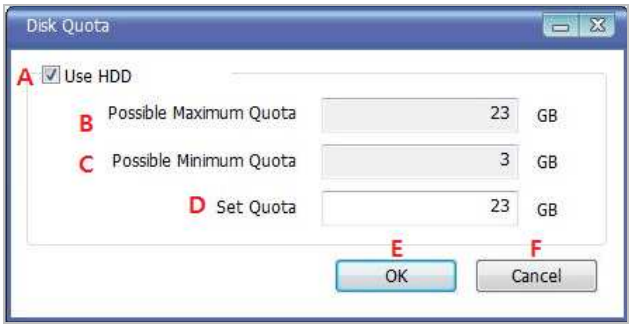



| | | Items | Descriptions |
|---|---|---|---|
| | A | Disk Quota Setup | Define the HDD for recording and configure the size of quota. |
| | B | Disk Quota Deletion | Delete previously assigned disk quota. |

### 8.5.2. Disk Quota Modification and Deletion

When SmartNVR program is installed, all local drives are assigned as recording storages. To modify the disk quota for recording, click **Disk Quota** on the menu list, and select the drive to be modified.

Now to change the disk quota size, click the 1'st button on the sub tool bar, or double click the drive on the device list. The following window will be brought up on the screen.

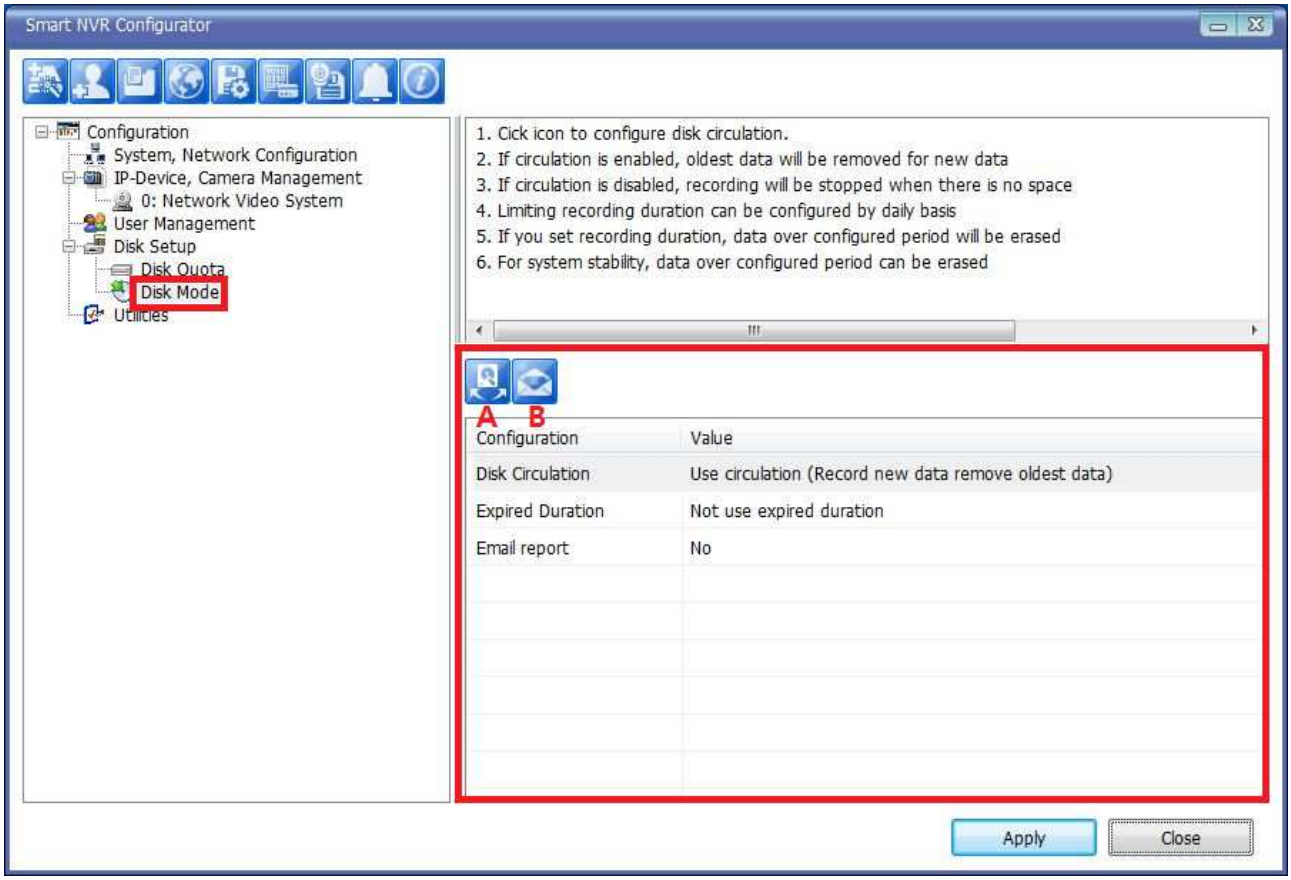



| | Item | Description |
|---|---|---|
| A | Use HDD | Decide whether this HDD is to be used. |
| B | Possible Maximum Quota | Display Possible maximum quota on this HDD. |
| C | Possible Minimum Quota | Display Possible minimum quota on this HDD. |
| D | Set Quota | Enter the desired size of disk quota for recording. |
| E | OK | Click to apply the configured disk quota. |
| F | Cancel | Click to cancel the disk quota configuration. |

To delete the existing disk quota, click **Disk Quota** on the menu list. Then choose the drive quota to be deleted. Click the 2'nd button on the sub tool bar.

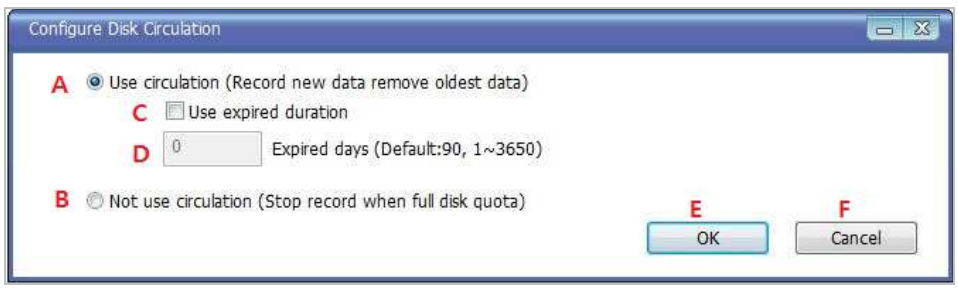
### 8.5.3. Disk Mode Change

To modify the disk circulation style, click Disk Setup, and then **Disk Mode** on the tree menu.


Smart NVR Configurator
Configuration
System, Network Configuration
IP-Device, Camera Management
0: Network Video System
User Management
Disk Setup
Disk Quota
Disk Mode
Utilities
1. Cick icon to configure disk circulation.
2. If circulation is enabled, oldest data will be removed for new data
3. If circulation is disabled, recording will be stopped when there is no space
4. Limiting recording duration can be configured by daily basis
5. If you set recording duration, data over configured period will be erased
6. For system stability, data over configured period can be erased
A
B
Configuration
Value
Disk Circulation
Use circulation (Record new data remove oldest data)
Expired Duration
Not use expired duration
Email report
No
Apply
Close

| | | Items | Descriptions |
|---|---|---|---|
| | A | Disk Circulation Setup | Configure disk circulation type. |
| | B | Disk Usage Report Setup | Configure email address for reporting. |

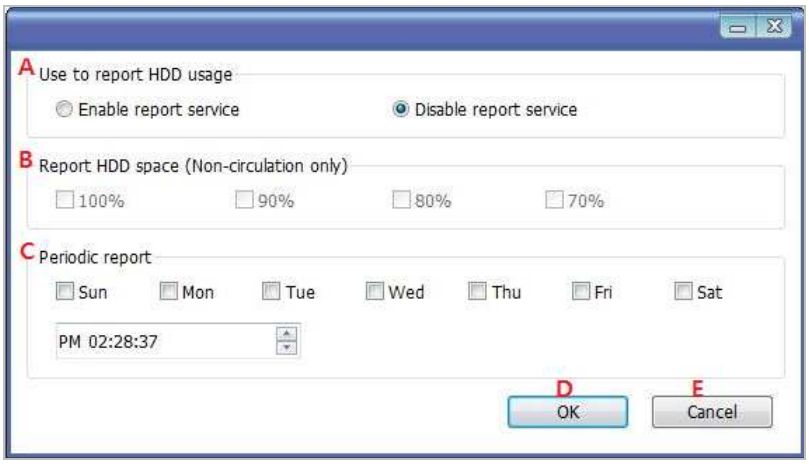
Click the 1'st button on the right tool bar, or double click the **Disk Circulation** in the list. The following window will be displayed.




| | Item | Description |
|---|---|---|
| A | Use circulation | Select this if disk circulation will be used. |

| | | |
|---|---|---|
| B | Not use circulation | Select this if disk circulation will not be used. |
| C | Use expired duration | Decide whether the expiration will be used for recording. (This can be se when Use circulation is selected.) |
| D | Expired days | Enter the date when the recorded content will be expired. |
| E | OK | Click this to apply the Disk circulation settings. |
| F | Cancel | Click this to Cancel Disk circulation settings. |

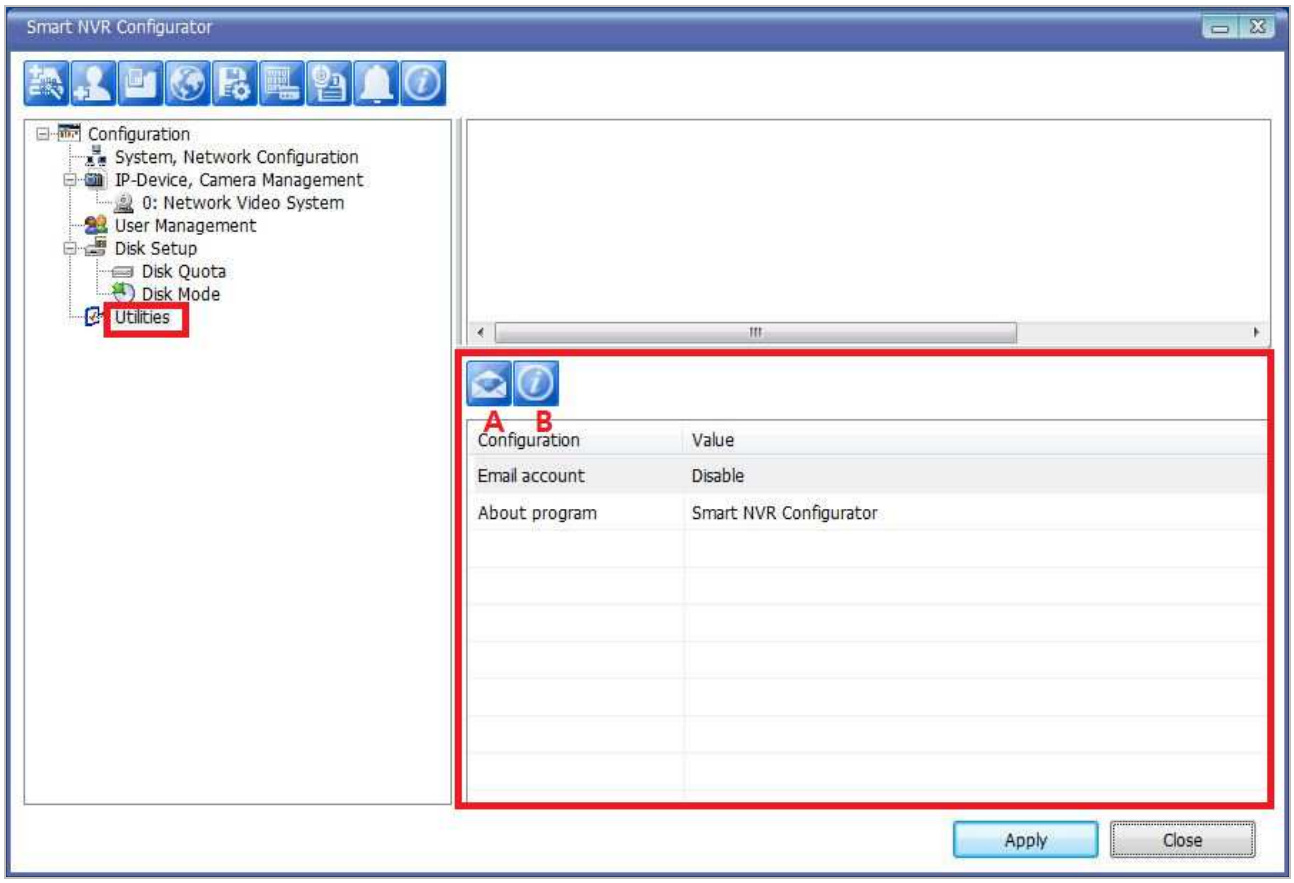
To modify the email notification behavior for hard disk recording, click the 2'nd button on the right too bar, or double click Email report on the right pane of the window.




| | Item | Description |
|---|---|---|
| A | Use to report HDD usage | Choose whether to Enable or Disable the report service. |
| B | Report HDD space | When disk circulation is not used, select the HDD size when it will be reported by email. |
| C | Periodic report | Define when Periodic reports will be sent. |
| D | OK | Click to apply the Email report settings. |
| E | Cancel | Click to cancel Email report configuration. |

## 8.6. Utilities

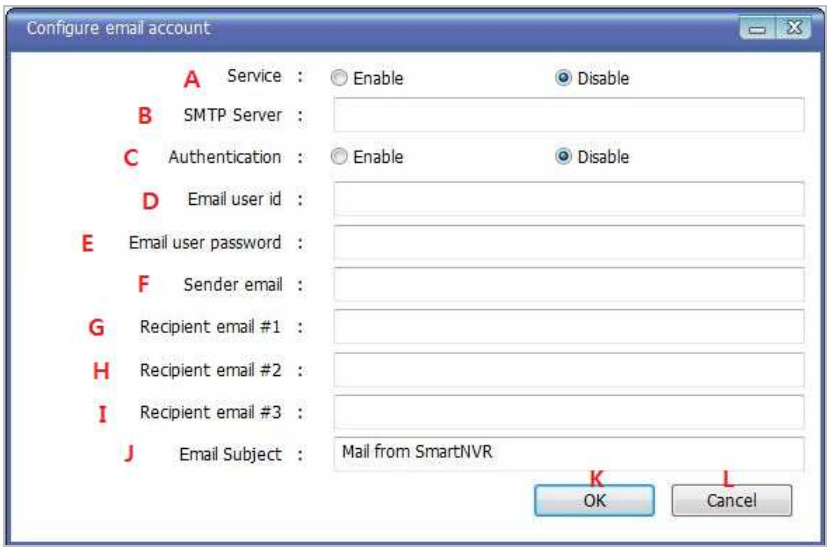
Select Utilities from the tree menu. You can perform two functions in Utility category, one is **Email Account Configuration** and the other is **About Program**.




| | | Items | Descriptions |
|---|---|---|---|
| | A | Email Account | Configure email account. |
| | B | About Program | Display the information of SmartNVR program. |

### 8.6.1. Email account Configuration

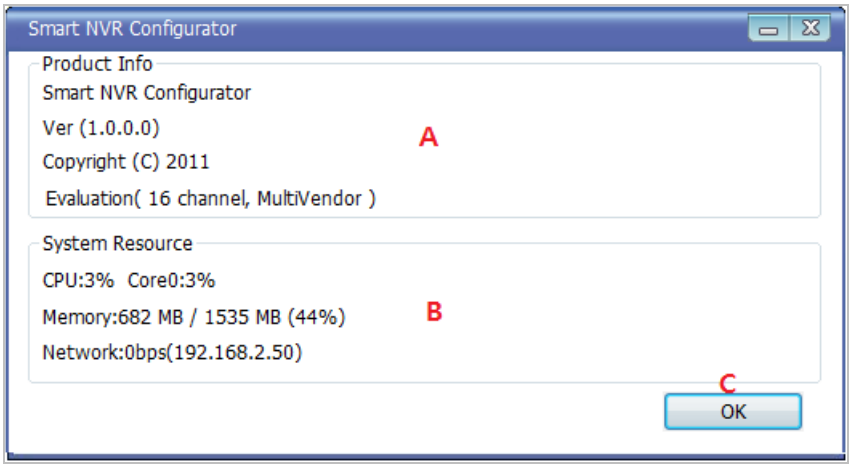
Once an email account is registered here, you can receive email notification from SmartNVR program upon a certain event. To configure an email accounts, click Utilities on the tree menu. Click the 1'st button on the sub tool bar, or you may double click Email account on the list.


Configure email account
A Service : Enable Disable
B SMTP Server :
C Authentication : Enable Disable
D Email user id :
E Email user password :
F Sender email :
G Recipient email #1 :
H Recipient email #2 :
I Recipient email #3 :
J Email Subject : Mail from SmartNVR
K OK
L Cancel

| | Item | Description |
|---|---|---|
| A | Service | Decide whether to report HDD usage by email or not. |
| B | SMTP server | Enter the address of SMTP server for sending email. |
| C | Authentication | Decide whether to use Authentication. |
| D | Email user id | Enter the sender's id for email account. |
| E | Email user password | Enter the password of the sender’s email account. |
| F | Sender email | Enter the Sender's email address. |
| G,H,I | Recipient email #1,2,3 | The email addresses of three Recipients to be notified. |
| J | Email subject | Enter the title of the Email when it's sent. |
| K | OK | Click to apply the Email account registration. |
| L | Cancel | Click to cancel this configuration. |

### 8.6.2. About Program

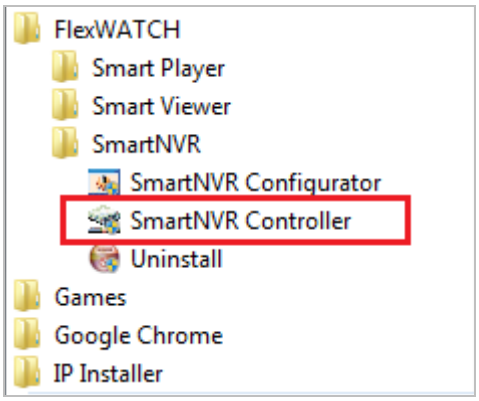
To displays the information of this program on the screen, Click the 2'nd button on the sub tool bar or you may double click the **About program**.




| | Items | Descriptions |
|---|---|---|
| A | About program | Show the information about the SmartNVR running. |
| B | System Resource | Displays the PC's system resource information. |
| C | OK | Click this button to close the Window. |

# 9. Using SmartNVR Controller

You can open SmartNVR Controller window by either one of the two different ways shown below. The first one is, Click **Start > All Programs > FlexWATCH > SmartNVR > SmartNVR Controller**.




The other one is, click the right mouse button on the SmartNVR icon in the system tray. When a pop-up menu is shown, select **Open SmartNVR Controller**.

Whichever way you used, the same SmartNVR Controller window will be brought up as shown below.

| | Items | Descriptions |
|---|---|---|
| A | Current Service State | Shows whether SmartNVR Service is running or stopped. |
| B | Start Service | Click this button to start SmartNVR Service when it's stopped. |
| C | Stop Service | Click this button to stop SmartNVR Service when it's running. |
| D | Go Home | Go to the SmartNVR's built-in webpage. |
| E | Close | Close the SmartNVR Controller window. |

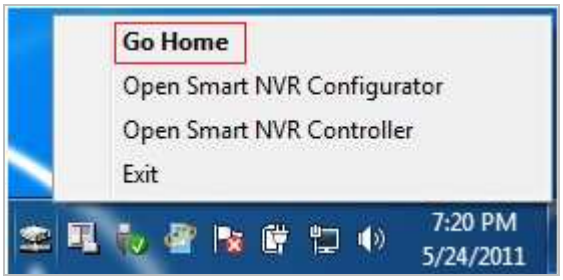
# 10. Connecting to SmartNVR

## 10.1. PC with SmartNVR installed

You can connect to SmartNVR in various ways as explained below.

- Click **Go Home** in SmartNVR Configurator or SmartNVR Controller window.

- Click **Go Home** from the pop-up menu on the System Tray.




- In Internet Explorer, enter the IP address of the computer that SmartNVR is running on.

- In case that the HTTP port for SmartNVR is not 80 (default), the port number should be entered together with the IP address. (the example below assumes HTTP port of 7777)

After you successfully connecting to the SmartNVR homepage, you will see the following window.

Network Video System - Windows Internet Explorer
http://10.10.221.6:7777/index_ie.asp
Network Video System
A Home | B Live View | C Player
IP CCTV IN CONSTANT OPERATION
Homepage ver 4.07-1300 for Network Video System

| | Items | Descriptions |
|---|---|---|
| A | Home | Go to SmartNVR's homepage. |
| B | Live View | Click this button to execute Live View program. You can use various features such as live view, audio transmission, PTZ control, unconditional recording, etc. |
| C | Player | Click this button to search, record, and back up the video data sent from IP devices registered in SmartNVR. |

*Note: For further details on how to use Live View program, please refer to SmartViewer User's Manual. For Player, please refer to SmartPlayer User's Manual.*

## 10.2. PC without SmartNVR

- If your PC doesn't have SmartNVR program installed, type in the IP address of the PC where SmartNVR is up and running.

- In case that the HTTP port for SmartNVR is not 80 (default), the port number should be entered together with the IP address. (the example below assumes HTTP port of 7777)